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ABSTRACT

This discussion of the alternative design features being considered for the National Education Practice File presents three design configurations for each feature, demonstrating how they differ and suggesting which is the most likely candidate for the pilot test based on utility benefits, technical feasibility, adherence to Federal Information Policy, and cost-efficiency. The initial portion of the report discusses each discrete file feature and delineates the implications of its selection rather than other file feature alternatives; these features are file content, acquisitions, selection, source availability, processing, file maintenance, vocabulary development and maintenance, search and retrieval, user products, and user services. The second part, drawing on Part I, presents the three alternate design configurations and provides a small number of scenarios deemed valuable by the project staff and the Project Advisory Group for reviewing the pilot test phase. Appendices include a list of the Project Advisory Group, excerpts from the Annehurst Curriculum Classification System, and recommended pilot test guidelines. (Author/JD)

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PRELIMINARY DESIGN FEATURE ALTERNATIVES AND DISCUSSION OF THEIR FEASIBILITY FOR A NATIONAL EDUCATION PRACTICE FILE

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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PRODUCTS 1.4 and 1.5

Submitted as Part of
NIE Contract #400-77-0095
The National Education Practice File Development Project

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Prepared by
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March, 1978

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Introduction

This discussion of preliminary design feature alternatives for the National Education Practice File was preceded by and is based upon National Education Practice File Ideas (Product 1.1). Product 1.1 presents a variety of ideas expressed by educators around the country regarding their perceptions as to what a National Education Practice File should be and how it should be organized and maintained. Subsequent to documentation of those ideas in Product 1.1, they were reviewed by an NIE Internal Project Advisory Committee whose task was to select alternatives from those ideas for further discussion here. That selection process is documented in Product 1.3. As an interim document, a review of existing educational information resources was made (Product 1.2) to insure that alternatives being considered did not duplicate existing services.

The further discussion of alternatives in this document is intended to provide the basis for determining the design for the National Education Practice File. For the pilot test to be most effective, however, it is important that alternatives be retained unless, at this stage, the evidence against inclusion is substantial. In this way alterations to the file following the pilot test will be based on experience and empirical evidence. Also to be kept in mind is the need to test as many features as possible while recognizing that the fullest development of such a practice file will require an incremental approach spanning several years.

The file feature alternatives are dealt with in three sets:

Set 1
- Content
- Acquisition
- Selection
- Source Availability

Set 2 -Processing

-File Maintenance

-Vocabulary Development and Maintenance

Set 3 -Search and Retrieval

-User Products

-User Services

Each alternative is discussed in terms of utility (benefits to users), technical design, adherence to Federal information law and policy and general cost considerations. Following the discussion of file feature alternatives contained in Set #1, there are summary statements indicating the major points raised for each alternative relative to the four feasibility criteria. This summary is provided for Set #1 since the features contained within it differentiate this file building effort from others and because the decisions made for Set #1 shall determine the decisions made in Sets #2 and #3.

Detailed cost analysis shall be prepared in subsequent products when it is known which alternatives shall be implemented. In this document the design alternative costs are discussed in relation to the feasibility of implementation given a minimal amount of funds for file start-up, and an increasing amount of funds available over time.

Organization of this Report

As indicated above, the file feature alternatives discussed in this report are those selected by the NIE Internal Advisory Committee from Product 1.1, a full listing of design feature alternatives generated early in the project. The purpose of this report is to provide, at NIE's request, a fuller discussion of the alternatives

being considered and to present three full design configurations, demonstrating how they differ and suggesting which is the most likely candidate for the pilot test based on utility benefits, technical feasibility, adherence to Federal Information Policy and cost-efficiency.

The initial portion of this report (Part I contains a discussion of each discrete file feature alternative and a delineation of the implications which its selection might have as related to other file feature alternatives. The discussion content was generated by BRS staff, the Project Advisory Group (listed in Appendix A) and meetings or discussions with representatives of:

- -Bureau of Education of the Handicapped, OE
- -Teacher Corps, OE
- -National Education Association
- -American Federation of Teachers
- -National Institute of Education (ERIC)
- -National Instructional Materials Information System (NIMIS), USC
- -Intermediate Agency staff
- -Eastern Pennslyvania Regional Education Resource Center
- -State Education Agencies (a selected number)

NOTE: Many of the above agencies are developing or considering the development of program/project/practice/material resource bases which are related to this design effort. Therefore, a considerable amount of project staff effort has been spent working to make those efforts compatible with the ultimate Practice File.

Literature citations in support of the discussions were generated by project staff, the Project Advisory Group and Richard Brickley and Carolyn Trohoski of Research and Information Services for Educators (RISE) of Pennsylvania.

It should be kept in mind that the project RFP did not allow for any formal data collection effort requiring Office of Management and Budget (OMB) clearance and that only 35 days were available between the NIE Internal Advisory Committee meeting (January 23, 1978) and the due date of this report (March 31, 1978). This is mentioned so that the reader understands that the discussions surrounding the alternatives are based upon time consuming personal interaction and therefore not fully comprehensive from a strict research perspective. BRS proposes that the discussions are as comprehensive as possible given the data collection methods and time available.

Part II of this report draws upon the discussions in Part I in presenting three alternate design configurations and providing a small number of scenarios related to the configuration thought by the project staff and Project Advisory Group to be of most value for reviewing the pilot test phase. Attached as Appendix C are the recommended guidelines for the pilot test that grew out of the meeting with the NIE Internal Project Advisory Committee (April 10, 1978).

BRS feels that this report provides sufficient information and direction to select overall design features that will guide the pilot test and identify issues to consider as the file expands and becomes institutionalized. Many of the issues shall be dealt with in greater detail in products developed later in the project. Therefore specific determinations made at this time can be modified based upon the experience gained during the pilot test and the evaluation data available

relative to that test period. In fact, the pilot test and its evaluation shall be designed to specifically inform the issues and/or questions raised in this report.

Throughout the project thus far, there has been some concern that "Practice" is not adequately defined anywhere. BRS approached this project with the open intent of allowing the preferences for content (initially documented in Product 1.1) to operationally define "Practice". The reader will note that content preferences discussed in this document are extremely broad and therefore the term "Practice" is no more defined by this product. We feel no particular anxiety about this lack of definition since the term "curriculum" is equally as vague as is shown in the initial section of this document that deals specifically with curriculum materials. In fact, aside from the teacher practices related to classroom management (e.g. grading, record keeping, disciplinary techniques, etc.), the broad definition of "curriculum" presented later might well be suitable for the term "practice"....at least it is a start.

NOTE: The alpha-numeric codes shown with each alternative in this document are the same as those used in Product 1.3. These codes are shown to maintain consistency with previous documentation and to facilitate discussion.

PART I

SET #1

Discussed in this set of file design features are content, acquisitions, selection and source availability. These non-technical features represent the areas that hold the greatest potential for developing a creative Practice File. The alternatives finally chosen for content, acquisition and selection shall define the basic system to ultimately be made available to U.S. educators. The source availability feature and the decisions made with regard to it shall set the parameters for exactly what the Practice File shall ultimately deliver to the user.

CONTENT

Content is the file characteristic that most distinguishes this database from other comprehensive educational resource bases. As is pointed out in subsequent discussions, this effort does impinge upon several other more specific or narrowly focused efforts (OE Programs That Work, NIMIS, etc.) and can be likened to ERIC in its effort to be comprehensive. However, unlike ERIC, the purpose of this file design effort is to focus on and acquire information that more directly affects practice and efforts to improve educational practice. Therefore, the ultimate audience is more specifically the practitioner. ERIC was designed with a research intent and therefore the content areas in this section represent many categories not fully represented in ERIC (ie. the term validated project is not even an ERIC descriptor).

The variety of content suggested for the practice file by people we interviewed and sources referenced is also illustrative of the lack of a coordinated resource base in this area and supportative of the Practice File effort in general. Schaffarzick and Sykes in a recent NIE paper (1977) indicate several times that coordination of "supply activities" and "delivery of products and services" are complex, neglected problems in this area. They also indicate the magnitude of this problem when they state: ".... if we consider the dissemination of information as a principal strategy for achieving better coordination, the amount of information to disseminate, and the number of decision-makers to reach, is staggering." They also indicated that teachers and administrators stressed that curriculum reform had little direct impact frequently because they were unaware of curriculum projects. The neglected area of resource base coordination and the severe problem of lack of practitioner awareness should be kept in mind as one reviews the content alternatives being considered for this file.

The group of content areas discussed below are those chosen as alternatives by the NIE Advisory Committee and documented in Product 1.3. The alternatives are grouped to facilitate discussion. Each group represents a different way of classifying the universe of possible file input and they are not mutually exclusive.

C1 NDN Validated projects

C2 SEA Validated projects

C8 Exemplary programs

Each of the content areas in this grouping implies a previous application of some measure(s) of quality or effectiveness. The process required for projects to be designated as "NDN Validated" (C1) is more generally understood and routinized than either of the other two.

As Narayanan indicates (Herlig, 1976) "all promote rational choice among proven educational alternatives....and NDN holds promise for moving exemplary programs from the developer to other sites quickly". SEA validated projects (C2) do have to meet specific SEA requirements though these requirements may differ somewhat from state to state. An "exemplary program" (C8) does imply that some qualitative judgements have been made, but the criteria are in no way universal and are likely unique to the agency designating the program as "exemplary".

In terms of user utility, certainly C1 and C2 are content areas worthy of prime consideration as input to the Practice File. Considerable evidence already exists relative to the replication of many projects with these designations. Emrick (1977) indicated that the NDN resulted in approximately 2,000 adoptions over a two-year period. The ultimate utility of C8 is unknown since there are no uniform criteria nor large body of "exemplary programs" available. Exemplary program catalogs are prepared and distributed by a wide variety of agencies (SEA's, Federal agencies, etc.) and there is no common indicator of quality.

In light of the Federal and State committments to process and identify both C1 and C2, there is an "obligation" to consider these alternatives as potential file content. This may or may not be true of C8 since the process and agencies involved in designating programs as exemplary are not uniform. Even so, the National advisory council on Supplementary Centers and Services (1974) indicates:

> School districts want to share in the educational success experienced by another district; schools with successful programs are equally interested in sharing what they have learned; a successful innovation, incorporated into a school district, does not die when federal funding ceases. (p. 43)

Also, the Katter and Hull (1976) report indicated that:

> Highly comprehensive files of citations for curriculum materials and "promising practices" could be developed to provide rapid and complete nation-wide intellectual access to such materials.
>
> and
>
> Since Print collection respondents also appeared most interested in "promising practices", such a project might be judged as a good place to start by both machine-readable and print collection sectors of the U.S. Education Information complex. (pp. 62 & 69)

The technical feasibility of including C1 and C2 is extremely high since efforts are already undertaken to collect and disseminate uniform descriptions of these programs. The Macomb County Intermediate School District in Mt. Clemens, Michigan has computer retrievable information relative to C1 and C2 as does the New York State Education Department. Acquisition procedures for C1 and C2 would not be complex since the C1 source is Office of Education (OE) and the C2 sources are the SEA's. If the ultimate Practice File design allows for both source availability and referral (as with an ERIC Level III document), then C 1 and C2 source access problems would be minimal. The C8 category might be utilized as a pool from which one draws (within a State) for potential candidates for categories C1 and C2.

Though the current volume represented by C1 and C2 alone may not justify computer retrieval, having this resource as part of the whole would be extremely valuable, especially for the information intermediary or linker. If they are not included, separate resources (probably printed catalogs) will have to be utilized at great expense in staff time in order to make these practices part of a comprehensive search for a specific client.

Again, the unknown nature of C8 makes the technical feasibility of including them questionable.

The widespread dissemination of C1 and C2 by Federal and State agencies would indicate adherence to Federal information law and policy even as it relates to the Privacy Act since the OE Catalog of Educational Programs That Work does list contact persons and their addresses and phone numbers. Inclusion of similar program descriptions for C8 would also be consistent with these policies.

Cost efficiencies would certainly be realized for C1 and C2 since at the present time unique catalogs of these materials are prepared yet there is no single dissemination vehicle for both. Widespread dissemination of C1 and C2 (at an awareness level) could be accomplished much more efficiently if they were included in the Practice File. If this were done, the production and distribution of hardcover catalogs could be limited thereby reducing costs of the current procedure. Assuming C8 were a definable entity, and further assuming that it was definable because it were cataloged in some way, the same cost efficiencies would be true for that alternative. (See "Selection" issues pages 23-33 for further discussion.)

The remaining content alternatives discussed below do not inherently infer any previous application of quality criteria, therefore, if included as potential Practice File content, any decisions regarding ultimate inclusion of specific entries, or any capability of the user to select output based on quality will have to be dealt with as functions of the "Selection" feature and the "Search and Retrieval System" feature. For instance, if a user wished to exclude these, the input would have to be coded to reflect the non-validated nature of this content. Then a user could avoid these using a "but not" non-validated operation in his/her search.

The next grouping of content alternatives is less generic than the initial group and it illustrates specific practices being asked for by the sources we relied on in preparing this report.

C3	Managerial practices (related to instruction)
C5	Non-validated projects
C6	Needs assessment techniques
C7	Competency based education programs
C15	Alternative education programs
C16	Community involvement programs
C17	Individualized education programs
C23	Inservice education programs

The above alternatives represent "wide open" possibilities related to potential input (with the exception of "validated practices" discussed above). In essence, they are all C5 (non-validated practices) and although focused on a particular aspect of the educational process, they are little more than a documentation of concern regarding areas which have been or are receiving considerable attention.

Since the alternatives do represent high interest areas (ie. C7, C15, C16, C17 and C23), the utility of this information is high. File usage would be especially high for content such as C7 (competency based education programs). This is especially true since in the last few years the number of states with competency based legislation has grown from 5 to 18. Also, C17 (individualized education programs) are always sought out by practitioners to provide more flexible student learning activity. As content per se, there is little reason to doubt its adherence to Federal information law or policy.

Since no organized, national effort is being made to gather and widely disseminate information on these alternatives, reducing costs of current formal efforts is nil. However, since these areas are of high interest, inclusion in the Practice File would affect efficiencies with regard to the time now taken by practitioners to find practices related to these alternatives.

Consistent with the general principle of adhering to a wide range of possibilities for the test file, the above content should be considered. However, in addition to the "content limiters" discussed later, it is recommended that a "subject" limitation be placed on these alternatives for purposes of the pilot test if they are accepted. For instance, focus on the basic skill areas would make these alternatives much more manageable. Without such limitation, severe problems shall be encountered with regard to technical feasibility (especially with regard to acquisitions) and cost-efficiency during the pilot test. While content type limiters are discussed in terms of selection (see below), it is important to recognize here the advantages and disadvantages of using a subject limiter for the pilot test. The one broad advantage is that, given a limit of 1,000 documents for the pilot test file, a comprehensive test of content types, acquisitions processes and selection criteria will not be possible unless the subject field is narrowed. The obvious disadvantage is that the practitioner audience served by the pilot file will be limited. In terms of trade-offs, the latter consequence is easier to accommodate, given the objective of the pilot test which is to encounter the widest possible range of input type.

The following content alternatives are dealt with individually primarily because of their own unique nature or by reason of the unique considerations which must be made with regard to other file features, specifically "acquisitions" and "source availability". For example, a major portion of the materials discussed below may be copyrighted and thus have implications for acquisitions and source availability. Thus, even though they are all "non-validated" they were felt to be worthy of separate treatment because of the policy issues they raise.

C9 Commercially Produced Materials

The mere fact that the majority of educational practices in use today are entirely built upon or related to commercially published educational materials makes this alternative worthy of serious consideration. This is especially true since the primary purpose of the Practice File is meant to facilitate the selection of classroom oriented materials or techniques by practitioners.

There are some national efforts in this area represented by the early National Information Center for Educational Media (NICEM) resource which was entirely non-print and the National Instructional Materials Information Service (NIMIS) which now contains a large portion of print materials for teaching the handicapped. Project "Media Base", funded by the Office of Education, is also a national resource development effort centered on non-print materials, though at the moment it has not gone beyond the planning stage.

An effort to provide independent, objective tests and evaluations of educational materials and equipment is undertaken by the Educational Products and Information Exchange (EPIE), which now has a computerized file of this information.

Other efforts, specifically in the non-print area include the National Audiovisual Center, the National Center for Audio Tapes, the National Educational Film Center, the National Multimedia Center for Adult Education, the Childrens Book Council, and the Educational Film Library Association. Books in Print and the Book Catalog are other well known sources for printed materials although they contain no abstract information.

All of these efforts are designed to assist educators in locating materials and resources for educational purposes. A major portion of these efforts deal with non-print media consequently the utility and potential file usage of an effort to organize information regarding non-print materials is possibly low. As with the validated project alternative, there is evidence available that the utility of printed commercial material is extremely high. This is so since, according to a recent study done by the EPIE Institute (1977) the major portion of educational practices in the classroom today are based upon printed commercial materials and, in 1975, seven firms had approximately 60% of the total industry revenues. Also, Klein (1976) reports that, according to an EPIE survey, twenty states have state instructional material adoption legislation or regulations and that the "adoption territory" covers 40% of the student population in the U.S. This evidence indicates a high degree of concern for and about commercial materials and therefore supports their inclusion in the file. On the other hand, if those twenty states have legislation or regulations, are the practitioners in those states free to choose among alternatives which might be brought to their attention by the Practice File or do the state regulations serve as barriers to a wide range of options? The NDN experience would seem to indicate that the barriers are minimal.

With regard to the technical feasibility of including printed commercial materials in the Practice File, there is already an effort underway by publishers through a group called The Book Industry Systems Advisory Committee. This group is attempting to develop standardized computer formats for both ordering and invoicing. This effort might be extended to include standardized abstract descriptions of printed commercial materials and thereby enable the Practice File to develop an awareness capability as well as an ordering capacity.

These capabilities do raise serious Federal policy issues, not as they relate to copyright or the Privacy Act, but rather as they relate to the possible conflict between the Federal and private roles in marketing of commercially produced materials. There is no question that the Federal educational establishment has responsibilities (regulations built into funding programs) and is supporting several large efforts to market Federally funded materials. However, the policies and mechanics of including commercially developed materials in the Practice File would have to be carefully worked out in a fashion equitable to all concerned.

On a number of occasions in the past, the issue of Federal/commercial relationships over marketing commercial products has been raised. Two conferences - Conference on Exemplary Programs - NIE; Promising Practices Conference - CRI - cited in the BRS "issue paper" on selection criterion both dealt in part with this issue. Basically, the issues are: (1) can the Federal government announce the existence of commercially produced materials? (2) can the government undertake evaluation of commercially produced materials (for dissemination purposes)? and (3) can the government underwrite mechanisms to increase user access to commercial materials (e.g. through actual "examination" copies or through automated ordering/billing arrangements tied into the Practice File)? It is assumed

that the first issue is laid to rest given current treatment of Level III documents in the ERIC system. The second and third issues deserve special attention and might be the focus of a separate policy study.

The rather severe nature of these issues is underscored by Datta (1977):

> Review of Proprietary Products: As Fletcher (1976) has pointed out, JDRP does not review proprietary products unless these are a central part of an innovation developed with Federal Funds or for which a special position of advocacy in dissemination is sought. Responses to a letter of inquiry from publishers suggested a profound and what may be disquieting distrust of evaluators. Some publishers did not want JDRP review on ideological grounds. They felt the Federal government should not review the quality of educational products developed through the free enterprise system where use is constitutionally a state responsibility. Other publishers objected on practical grounds. They did not believe any evaluations were reliable enough, sensitive enough, or available soon enough to be a gatekeeper on marketing judgments regarding adoption. (pp. III 21-22)

A possible solution related to the third issue is a charge to publishers on a per entry and per order basis for the inclusion of the materials in the Practice File. This decreases the Federal role and provides a mechanism whereby the private sector can help support an educational resource of value to all concerned. Substantial cost efficiencies would be accrued to both the publishers and school district personnel seeking commercial material information. An increased level of awareness and choice would also result because of the increased number of known options a practitioner would have and be able to access. This benefit is immeasurable and in some cases invaluable.

C 10 Curriculum Materials (from all sources)

The phrase "curriculum materials" is frequently used but less frequently defined. A recent report by the Comptroller General of the U.S. (1977) contains a definition which is worth citing here in order to establish some common understanding of the phrase as it relates to the Practice File.

> Curriculum materials can be defined as anything of a written or audiovisual nature developed to meet the objectives of an educational program. Although textbooks are major curriculum materials, such other materials as films, other visual aids, records, games, and simulations are widely used. In addition, teacher guides and manuals which include goals and objectives, learning experiences, activities, and instructional aids are normally considered curriculum materials.
>
> The process of developing curriculum materials includes a wide range of activities. The process might be a 3- or 4-year effort by a team of specialists to research, develop, and test an entire curriculum for a subject area. Curriculum development might also be no more than an individual teacher's decision to develop and introduce supplementary material into the classroom. (p. 11)

This broad view of curriculum is shared by Frymier who, in his book entitled the Annehurst Curriculum Classification System (ACCS), indicates that curriculum materials are typically thought of as "large", the conventional textbook being an illustration. He contends, however, that curriculum materials also include "small items" such as photographs, reprints, pamphlets, workbooks, worksheets, film loops, newspaper clippings, etc. The ACCS is intended to classify, organize, store, retrieve and make available to teachers and learners information about these "large" and "small" materials.

Clarke et al (1978) also supports the notion of the need for very specific items. In a research project on diffusion of innovations, the authors findings confirm that teachers are interested in practices developed by other teachers that they can readily adapt. Practices that are inexpensive, and meet very specific needs in the classroom are being sought. Improved teaching practices of this sort may be adapted within the building where they originated but bureaucratic structures tend to isolate teachers from their peers. Communication of these promising ideas among buildings is uneven and spread of new practices from outside a system to internal segments is uncertain and difficult unless part of an organized, subsidized effort such as the NDN. A well conceived Practice File could facilitate the spread of unique, specific practices.

As further evidence of the broad conceptualization of what "curriculum" is, Schaffarzick and Sykes (1977) state that for some, curriculum refers to course content, for others it refers to instructional materials (objects or products) and to still others, curriculum is equated with learning experiences or opportunities (intended or unintended) in the classroom, school or all of life. As this concept expands, distinctions between curriculum and instruction become less defined. Given this blurred conceptualization of curriculum and thus curriculum materials, for purposes of this study we shall focus on the notions expressed earlier represented by both the Comptroller General and Frymier.

Though this suggested content alternative was intended to include commercial sources, for the purposes of discussing the issues raised, the commercial portion is excluded since it was dealt with above.

Although many State and intermediate agencies undertake efforts to collect curriculum produced by the state and local levels (including teacher-made), there has been no lasting national effort. The Curriculum Materials Clearinghouse, a subdivision of Xerox, attempted to provide a centralized pool of curriculum materials, including brief descriptions and microfiche and hardcopy of the actual material. That effort was abandoned in December of 1976. One of the major reasons for its demise was the unwillingness of producers to pay for micropublishing, which would not be the case with the Practice File since microfiche copies could be produced as they are at present with ERIC.

The reliance on microfiche, the lack of incentives for submitting materials, the processing of royalties and the more readily available review copies of certain commercial materials through other sources may have all contributed to that failure according to Xerox staff members previously affiliated with the effort. Nevertheless, the inclusion of these materials must be carefully considered even in the face of that previous effort since curriculum materials are the primary tools of the practitioners in U. S. education. The usage of local curriculum collections alone provides sufficient evidence of the utility of this resource. Though focused on special education teachers, Bulgarella and Williams (1970) found that when teachers' attitudes toward commercially produced and teacher-made materials were examined, respondents tended to be slightly more favorable toward teacher-made materials.

The Practice File may not be capable of delivering actual source materials in hardcopy form which may be a hindrance to widespread use. (It might be noted here that it does not seem to hinder the widespread use of microfiche copies of locally developed curriculum materials made available by the San Mateo Educational Resource Center - SMERC).

The technical feasibility of including descriptions of these materials in the file is obviously high since both Xerox and SMERC have accomplished that endeavor. An acquisitions organization would be extremely complex and would lead to questionable levels of cost efficiency because of the number and variety of producing agencies (or individuals). A limitation in subject area would be necessary if this content alternative is selected for inclusion in the Practice File pilot test.

C 22 English Language Materials from Other Countries

Though the utility of these materials would be relatively high, many of the practice-oriented materials might be localized and therefore less relevant than materials produced in this country. Though of value for exploratory or awareness purposes, these less relevant materials represent a difficult acquisitions process, thus complicating the technical aspects of their inclusion. Also, any material requiring referral to the producer would involve a lengthy process of communication. In addition, referral by name, address and phone number of foreign contacts would involve clearance required by Federal information policies.

In light of the above considerations and the fact that we have not yet devised a practice oriented system in this country, the cost benefits of selecting this alternative early in the development of the Practice File are minimal.

C 28 Tests and Measurements

As the emphasis on accountability moves closer to the classroom levels, the utility of valid, reliable measurement instruments increases for the practitioner. Thus, a comprehensive collection of these instruments and the capability to retrieve them based on a number of variables becomes a highly relevant capacity.

Many printed resources currently exist including the Elementary School Test Evaluations and the Secondary School Test Evaluations both produced by the Center for the Study of Evaluation (CSE) at UCLA, the CSE Preschool/Kindergarten Test Evaluations, Reading Tests and Reviews by Buros, The Seventh Mental Measurements Yearbook by Buros, and many others.

In addition, the Educational Testing Service, Test Collection Department is a source of current information on measures and services. It has over 10,000 tests cataloged by author, title and subject, over 100 reference books on tests, and a Head Start Test Collection containing tests appropriate for children from birth to nine years of age. ETS also has developed a collection of unpublished (and non-validated) test materials which are available on microfiche.

There is little technical difficulty in including the tests especially since ETS (1.) has a large collection already and (2.) ETS is the ERIC Clearinghouse on Tests Measurement and Evaluation and already deals with copyright problems, and does the indexing and abstracting. With regard to Federal information policies, ETS already adheres to them as well as to the standards of the American Psychological Association and the individual publishers. Given the existence of ETS as a natural, committed acquisition agency, the cost benefits for this content alternative are extremely attractive.

NOTE: Whether or not the Practice File were searchable with ERIC, consideration should be given to making this particular content a part of the Practice File so as to allow for more powerful searching and matching of resources in this area to practice resources.

ACQUISITIONS

The creation and maintenance of the acquisition feature of any file design is one of the most costly undertakings in file development. Establishing sustained organizational relationships at a level of sophistication and rapport that yields relevant file entries requires tremendous expenditures of human resources.

Three design feature alternatives for acquisitions are under consideration for the Practice File, they are:

A1 Within the current ERIC structure, establish a new clearinghouse to undertake the acquisition activities for the Practice File.

A4 The current ERIC clearinghouse structure absorbs the activities required for the Practice File.

A5* An organization completely outside the ERIC system is responsible for acquisitions (this does not preclude ultimate processing via ERIC).

These alternatives reflect the requirement in the RFP to use ERIC features if at all possible. At the same time, there is concern that the current ERIC clearinghouses may not have the capability to develop and maintain the acquisition relationships required to reach the practitioner level. The three acquisition alternatives are explored below:

A1 A New ERIC Clearinghouse

Certainly maintaining the basic ERIC organizational structure is a distinct advantage as it affords a framework tuned through experience to the techniques of cost efficiency while at the same time producing products which have become

*Not proposed in Product 1.1, but suggested by BRS and endorsed for further study by NIE.

a common resource for the problem-solving educator. To create a new organizational structure would involve considerable retraining both internal and external to the system as well as requiring substantially more publicity.

A new ERIC clearinghouse could be one in which all of the current clearinghouse functions are performed including acquisitions, screening, abstracting, indexing, etc. However, since the acquisition requirements would probably dictate relationships with organizations that current ERIC clearinghouses already relate to, there would be some duplication which might hinder development of the Practice File and jeopardize the existing clearinghouse relationships.

Though still adhering to the concept of a separate ERIC clearinghouse, the scope of work might be shifted to one of coordinating and expanding upon acquisition efforts of other clearinghouses and focusing those efforts on the Practice File content. In addition, since other file features may differ somewhat from ERIC (e.g. capability for online updating), the new ERIC clearinghouse could also be responsible for file maintenance and user products unique to the Practice File. This alternative still represents the addition of a new clearinghouse but builds upon the strengths of those in existence thus leaving residual responsibilities that are focused on this new effort.

Another positive aspect of this alternative is that it would provide some central management of the Practice File effort thus affording a higher degree of responsiveness as well as accountability. These are important considerations for a developing program.

Initial costs may be slightly higher but to diffuse the effort among the existing clearinghouses without a central management, processing and updating point might sacrifice quality at a critical point in the development of the file.

A4 Current ERIC Clearinghouses Absorb the Practice File

An advantage of this alternative is that no new organizational structures are required. This would certainly reduce costs but as mentioned above, at the probable expense of responsiveness, accountability and perhaps quality due to the diffusion of the effort among the existing organizations. The identity of the effort if diffused throughout the current system would provide for only minimal "pride of ownership".

The ultimate absorbtion of the Practice File may be extremely feasible even if alternatives A1 or A5 were implemented. However, in the early stages of file development (first 3-5 years) it would seem critical that a distinct agency and budget be directly responsive to this program. Supplementing current agency budgets without a specific programmatic chain of management invites an indiscernable audit trail and perhaps an indiscernable program.

A5 An Organization "Outside" ERIC Administers the Practice File

To clarify this alternative, it grows from the concern over whether or not the current (or new) ERIC clearinghouses have the organizational capacity to relate directly to the practitioner level for activities such as acquisitions, training and targeted user products. It was felt by the NIE Internal Advisory Committee that the feasibility of an organization outside the ERIC system with strong practitioner relationships should be studied.

It was not intended that the processing be outside of ERIC but that functions similar to those described under alternative A1 would be the responsibility of an outside agency. For all practical purposes, the distinction between this alternative and A1 is the organizational variable concerning whether the agency responsible for the Practice File is a part of the ERIC system or outside it, yet cooperating fully with it. A procurement for such an agency would be essentially the same in either case with the major difference being the program management chain.

The advantage of an outside agency rests primarily with the capability for direct program accountability and perhaps a greater degree of flexibility not being bound by "system" tradition or history. Also, outside agencies such as NEA or AFT have organizational capabilities for immediate, direct access to the practitioner level. In both of these cases, practitioners are also motivated to respond since these agencies are negotiators for practitioner salaries and benefits. It should be kept in mind that agencies such as NEA or AFT could also be the contractors under alternative A1. The disadvantages are related to the degree of effort that would be required to maintain a fully coordinated program if the agency were outside ERIC.

Also, differences (philosophical or programmatic) between the Practice File program administrator or project directors and the ERIC administration could potentially be much more serious if the Practice File agency were outside of ERIC. Such differences could lead to uncoordinated efforts without a common administering authority. The result could be severely detrimental to both ERIC and the Practice File.

Costs for this alternative would be essentially the same as A1 with the added human resource requirement for maintaining liason and coordination with ERIC system management. The chart on the following page shows some basic functions of the three alternatives. It demonstrates the coordination required if A5 were selected (administration, budgeting, acquisitions, and tape creation). At the same time, it demonstrates what little coordination is required for A1 while still maintaining an identifiable effort for functional field (user) purposes.

	New ERIC Clearinghouse (A1)	Current ERIC Clearinghouses Absorb (A4)	Organization Outside ERIC (A5)
Administration and Planning	-Via Central ERIC -Clearinghouse Directors -Advisory Board (separate)	-Via Central ERIC -Clearinghouse Directors -Advisory Board (shared)	-NON-ERIC, NIE contact agent -Advisory Board (separate)
Budgeting	-Proposal to Central ERIC	-Proposal to Central ERIC	-Other funding agent process
Acquisitions	-Via current clearinghouse relationships (expanded) -Unique relationships with "producers" that do not duplicate current CH relationships	-Relationships with organizations in each CH's scope	-Totally new relationships
Processing	-Current ERIC indexing and abstracting modified in accordance with the Practice File project all done by 17th CH	-Current ERIC indexing and abstracting modified in accordance with the Practice File project and done by 16 CH's	-Current ERIC indexing and abstracting modified in accordance with the Practice File project
Tape Creation (If searchable with ERIC)	-Current ERIC process	-Current ERIC process	-Process established to merge with current ERIC

SELECTION

The three alternatives to be considered within this feature relate to levels of rigor which shall be required for selecting input to the file. The alternatives range from rigorous system requirements for input requiring standard expression of learner outcomes for screening purposes (S2/4b) to little system screening rigor but standardized input requirements for data elements related to evaluation outcomes thus allowing the ultimate user to accomplish a qualitative screening during a search mode by only requesting the higher levels of outcomes (S4a).

These alternatives represent basic differences in philosophy regarding file input and that philosophical debate shall not be taken up here. BRS has documented that issue in a brief paper entitled "Content Selection as an Issue Affecting Development of a National Education Practice File" (December 1977).

A discussion of the selection alternatives follows:

S2/S4b Adopt a uniform means of expressing learner outcomes and through use of a panel review, only include the better practices in the Practice File.

This alternative represents the most rigorous qualitative screening effort. "Uniform means of expressing learner outcomes" requires, in itself, that nationwide agreement be reached on a uniform method would be (grade equivalents, specific competencies, normal curve equivalents, Z-scores, stanines, percentiles or some as yet undetermined metric). Achieving this general acceptance of a standardized expression of learner outcomes a task within the Practice File Development Project is somewhat unrealistic since no agreement has yet been reached by those long concerned with comparability of such data.

In fact, there is reason to suspect that there is little agreement on standards of quality for less complex issues than those related to learner outcomes. Hensley (1978) reports that researchers and school people disagree over such simple quality standards applied to documents such as document length and format. It is interesting to note that there was significant agreement about appropriate standards among researchers surveyed, whereas, there was significant disagreement about acceptable standards among respondents working in school systems.

For this alternative, a specific standardized score could be requested with options for submitting alternate data if the standard score requested is not available. The panel would then be responsible for subjectively determining data comparability and determining selections for file input. Turnbull (1975) comments on the make-up of such a panel:

> . . . . products can best be reviewed by a panel that represents a broad spectrum of experience; the presence of minority and female members is also stressed. . . . A matter which may deserve more attention is participation by users in validating practices for diffusion, since the object of a search is ultimately to meet user's needs. (p. 13)

This level of rigor and the functioning of a review panel makes this selection process similar to the Joint Dissemination Review Panel (JDRP) process although this procedure leans more heavily on learner outcomes as the determining variable for selection and could be organized on a multi-level basis.

The difficulties inherent in reaching general agreement on a standardized expression of learner outcomes makes strict adherence to that requirement less feasible than other alternatives. This is not meant to imply that this procedure is not attractive in content because it is ultimately one of the best selection criteria (learner outcome). However, the known resource limitations for this project

simply do not allow for the massive expenditure of resources that would be required to establish such a mechanism. Just this one design feature would require funding comparable to that required for the Federal validation and JDRP process and would therefore consume all of the funds for the program.

S 4a Adopt a uniform means for expressing learner outcomes and include all practices allowing the user to define what qualitative level is desired.

Whereas the first alternative uses learner outcomes as a system screening device, this alternative leaves the ultimate screening to the user and his/her specifications. This alternative is also fraught with the questionable feasibility of attaining general agreement regarding expression of learner outcomes. Given agreement on that issue there is no technical reason why the search capability cannot include the facility for users to search on the parameter represented by uniform expression of learner outcomes. Costs of this alternative are somewhat lower than the previous alternative since there are no expenses related to a review panel.

In terms of utility, this alternative may be superior to the previous one because it affords the user greater latitude of choice. It also allows the user to review those projects that failed so as to know what to avoid. Also, since failure in many cases is attributable to the individual teacher, the inclusion of those projects that failed allows users the opportunity to try, and perhaps succeed, where others did not. Schaffarzick and Sykes (1977) indicated that teachers urged an NIE role in the dissemination of evaluative information to aid in the materials selection process.

This also supports some expression of evaluative evidence for practices. At the same time, however, these same authors indicate that the lack of consensus over purposes of schooling and the inadequate assessment procedures, evaluation designs and data analysis techniques make reliance on these efforts risky. Another caution with regard to the expression of learner outcomes is put forth by Eisner and Vallance (1974) in their discussion of the "fallacy of universalism" which states in part: "The fallacy of universalism rests on the belief that some fundamental content areas or topics are of universal significance regardless of the particular characteristics of the student to whom the school is intended to serve. This fallacy leads to a perpetual hunt for the "best" curriculum as though there were one practice that would be best for everyone of a particular age, regardless of other characteristics....an effect of this fallacy is that it removes curriculum decision making from the arena of the empirical study of its context, placing it instead, in the arena of rhetoric."

This alternative offers educational administrators special advantages since success and failure can be contrasted on a number of searchable variables and thus correlations can be identified for indepth analysis. Neither the previous nor the following alternative afford this capability and it is a facility which yields an extremely high level of cost benefit (in a management sense) without sacrificing the user service potential.

NOTE: Though the feasibility of attaining general agreement with regard to expressing evaluation outcomes in some way (learner outcomes plus other variables) is not likely, to reject either of the above alternatives on that basis would be blatant neglect of an unprecedented opportunity to move programmatic educational information systems and hopefully the state of educational assessment forward on the evolutionary cycle. The need for this progress is indicated by Klein (1976) who indicated that "there has been practically no state inclusion of positive learner effects criteria in any of the checklists reviewed to date...."

Either of these alternatives could be compromised somewhat with regard to the degree of uniformity for expressing evaluation outcomes as long as an attempt were made to determine and enter data in some comparable form across practices so user evaluation data might ultimately be collected for comparative purposes.

S3/S11 Include all practices submitted, citing what evaluation/validation technique (if any) was applied (and when) to the practice (actual learner outcomes can be optional).

This alternative circumvents the problem of "uniform expression of evaluation outcomes" by moving to a more generic level. Rather than express what the learner outcomes were, the system would simply require an indication of what the method/technique of evaluation was (i.e. JDRP Approved, standardized achievement test, State-administered evaluation design, local competency measures, etc.). It also provides a mechanism for including an indication of evaluation type and outcomes for non-learner oriented practices such as management practices.

Since all practices would be included, it decreases the utility in that no qualitative selection can be made by the user since qualitative data is not required as system input. If the user intuitively felt that one type of evaluation were superior to another, the capability to search on that variable would exist. However, a user in selecting a "superior" evaluation technique could still "pull" only "inferior" (in terms of outcomes) practices. Thus, this alternative requires the user to undertake a follow-up step with the project contact person or referenced documentation in order to determine what the evaluation outcomes were if that is of interest (and they are not included as indicated below).

Another disadvantage of this alternative in relation to the other two is that it does not allow any management capability (comparison of outcomes across a variety of variables) as is afforded by the inclusion of learner outcomes, especially as in the previous alternative. The cost of this alternative would be significantly lower than the other two since no effort needs to be made with regard to standardized expression of learner outcomes, no panel is involved and there is little problem of data (or information) comparability.

There are no technical reasons why the system design cannot include the capability to search based on "evaluation type" variables. In fact, the format can include the option of making actual learner outcomes available if they are relevant to the practice. For instance, if one of the evaluation types were "nationally validated achievement assessment instrument", the data entry format instructions could ask...."If measures of student performance were utilized, you may enter the results (include loss or gain as well as exposure time) on line 42 of the data transfer form". The optional entry on line 42 might read...."mean achievement gain for grade one was .9 months over one school year period". This technique would allow users access to practices by evaluation type, but also afford the opportunity to ascertain learner outcomes if they are available. This alternative (S3/S11) deals with practice quality from the user perspective (allows the searcher to select based on evaluation type and outcome if desired) but does not exclude practices as options simply because they did not work well in one setting. This is more in keeping with current Federal policy as is indicated by the following quote taken from the previously mentioned study (Comptroller General of the United States, 1977):

> When asked if mechanisms exist at the Federal level for protecting students from unwanted value changes or undersirable materials, Office of Education officials stated that they were not formally involved in these matters. They felt that placing restrictions on the content of federally sponsored materials would involve the Federal Government in a role of determining what local schools can use. They added that because selection of materials was a local decision, the Federal Government avoids becoming involved in local controvercies about materials even if they were developed with Federal funds. (p. 28)

However, we do not mean to imply that this apparent policy should not be questioned nor does the Report quoted, since it raises the question:

> Is the Federal government responsible for providing evaluations ('validations') of the curricula it sponsors or should it just make such curricula available for others to judge and adopt or reject? (p. 40)

Though this question only relates to Federally-sponsored content, it has implications for Federally-sponsored efforts to make practice information widely available. In light of the above, and since ERIC procedures do not require evaluative information, we feel this is an area for further policy study.

It is possible during the pilot test to implement a mix of the three selection alternatives and then, based upon user and internal project (related to feasibility of acquiring and adequately expressing learner outcomes as part of acquisition and abstracting process) evaluations, determine which alternative to implement for further expansion of the Practice File. BRS is in favor of the mixed approach inherent to this alternative especially since the literature is not in agreement regarding whether or not the application of evaluation techniques and the reporting of evaluative outcomes are of ultimate significance. For instance, Klein (1976) holds that "the current state of affairs in product selection is that consumers rarely know if a product has been reviewed or by whom and they have no knowledge

of the criteria applied by developers to initiate, revise or market a product by the reviewers". Datta reports (1977): "....there is no evidence suggesting that people like what is good for them or that only effective programs are popular." Turnbull(1975) states:

> One area of criteria (for identification of exemplary practices), that of evaluation design and results, has been widely studied and now possesses standards for 'rigor'. Other areas, though, such as 'exportability', remain relatively unexplored; no one can authoritatively define a rigorous demonstration of exportability...(Some critics) They cite evidence that when practice travels to a new site, it often changes considerably, and they conclude that when diffusion is planned, the most rigourous evaluation may not, after all, mean very much. (pp. 2-3)

Also, supporting that notion, Contemporary Research Incorporated (1974) indicates that:

> The recommendations concerning the selection of promising practices to match LEA needs are directed at insuring that there is access to the full range of educational ideas and approaches. Participants were very sensitive to the reality that promising educational practices include a multiplicity of outcomes, for which no adequate evaluation measures may be available, and that little or no money existed for LEA's to conduct evaluations. ....
>
> LEA's tend to view the application of rigorous student outcome criteria alone for screening promising practices as preventing them from making their own judgement about a program's quality and effectiveness. (p. 19)

and further that:

> The controversy concerning the question of whether programs with no evidence of impact on student outcomes should be selected and disseminated, can be resolved by understanding that:
>
> 1. LEA's do have the responsibility for finally judging a program's worth;
>
> 2. Promising practices information is useful to LEA's when considering a wide range of ideas, alternative approaches and new programs focused in a single problem area; as well as when seeking a single, "exemplary" model;

> 3. Funds are not presently available to validate more than a handful of promising practices. Thus, hard data on outcomes will not exist in the near future for most promising practices, for reasons entirely unrelated to their value or "promise." (p. 24)

A rather unique suggestion, but falling on the side of "no need for rigorous evaluation data" is put forth by Berman and others (1975) who indicated that:

> . . . . innovations originating outside an LEA should be left in a highly unfinished state to allow for local adaptation and development, and that any assistance from outside a LEA should be highly nondirective in nature. (p. 22)

On the pragmatic side in favor of a lessor degree of rigor, Brickley states (1975):

> If we make entry of instructional material into a data base dependent upon strict validation criteria, we will wait a long time before we have a useful file. Furthermore, those who use such resources will use them whether or not they are validated if they have a perceived need in that content area or in that type of instructional material. (p. 2-3)

In support of that statement by Brickley, Tallmadge (1974) indicates:

> Some 2,000 projects (Product Information Packages) were considered at least superficially as potential candidates for packaging. Initial screening reduced this number to 136 and adequate information could be obtained for only 103 of these candidates. Indepth analysis led to rejection of 97 of the remaining candidates, with inadequate evidence of effectiveness accounting for 54% of them.

Clearly, the point of view that holds little real value for the inclusion of rigorous evaluative data is shared by many as indicated above. However, there are probably an equal number of educators who feel there is a need for the reporting of "rigorous" evaluative data. The JDRP represents a strong voice when it says (1977):

> The federal government is irresponsible if it does not take steps to assure that the educational materials it disseminated are backed by objective evidence of effectiveness. (p. III-1)

Equally as strong in conviction, Tallmadge states (1977):

> It (evaluative screening) is essential because, for both moral and political reasons, Federal monies should not be spent disseminating as effective, educational products and practices that do not have beneficial impacts on their recipients. Such products and practices must be screened out. (p. III-28)

Also, Datta (1977) indicated that:

> If the Federal Government puts 30% of all education R&D money into getting products that work into the hands of consumer, it better have some systematic ways of reviewing the evidence that these products are effective. The alternative is haphazard dissemination, susceptibility to pressures from developers (who are scarcely disinterested and objective) or placing the entire burden on consumers, most of whom cannot afford to support an educational effectiveness product review staff. The public appears to have had enough of educational products that don't work when adopted or still worse, may be harming rather than helping. (p. III-18)

Lastly, in support of some form of evaluative screening "rigor", Klein (1976) indicates that:

> Intrinsic quality criteria are those which must be ascertained by examining the product itself rather than by simply reviewing information about the product. Standards have already been established for many of these items but experts may be needed to apply the standards. (p. 6)

As can be seen on both sides of this "selection" issue, strong voices and positions have been taken. It is the unresolved nature of this issue that prompts BRS to support the selection alternative that at least allows as an option, the inclusion of learner outcomes or "practice effectiveness", but requires no more than an indication of the type of evaluation (if any) undertaken with reference to a given practice.

Limiting File Input

Apart from selection criteria concerned with the programmatic content quality, consideration should be given to techniques for limiting the volume and defining other characteristics of input. These considerations do relate to utility of the file but also provide a means for better defining the scope of the Practice File.

L4 Limit content by media format or publication type

This alternative for limiting file input is especially relevant in light of the earlier "CONTENT" discussion which illustrates the multitude of efforts underway with regard to non-print materials. The level of effort evident for those materials makes the alternative of dealing primarily with printed material (capable of being placed on microfiche), at least initially, an attractive choice. Dealing with printed materials also reduces the source availability problems since the ERIC practice of making source material available on microfiche could be easily adopted. Including AV materials would not only represent a duplication of other efforts discussed above, but would place delivery or availability of source materials beyond the scope of the Practice File since multiple resource centers and loan mechanisms would be costly and unwieldy.

Consideration can be given to expanding this scope at a later date if (1) the Practice File system is capable of such expansion and (2) it is found that the current efforts with AV materials mentioned earlier (ie, Project Media Base) are not adequate.

L6 Include only those practices that can deliver documentation or technical assistance

A focus on printed materials makes delivery of documentation a natural capability with the exception of copyrighted materials or other materials of limited availability. This is an issue that will be discussed under "source availability". Limiting input to those practices for which someone is willing and able to provide technical assistance is a more complex consideration. Such ability assumes that this willingness be known and that descriptions of given practices state this willingness or it is generally understood when practices are included in the file. The potential implication for such an understanding or statement is that any given practice contact person could be inundated with written and phone requests for assistance. Certainly the developing or demonstration site for such a practice and contact person would be pressed beyond its limits to respond adequately.

In light of the suggestion made by the NIE Internal Advisory Committee that "linkage" or technical assistance considerations do not truly fall within the development of this file, this limiting technique becomes more of an academic question. However, potential contributors to the Practice File must be cautioned regarding the implication mentioned above since the mere inclusion of a contact person with phone number and address can still result in a school district inundated with requests. Though current printed catalogs list contact people and phone numbers, the audience reached by those printed forms is but a fraction of the audience that will come in contact with the Practice File print-outs. This is especially true if the Practice File is made searchable with ERIC.

The technique of limiting based upon the degree of technical assistance available is not realistic since the amount of technical assistance available shall be unknown.

L7 Limit practices by date

This alternative is only relevant while initially building the file since decisions regarding updating and purging functions will determine much more clearly the range of practice "age" to be included in the file.

For initial file building, focus should certainly be on the most recent years if not on the current and/or previous year so as to minimize update problems.

In addition to the selection/limiting criteria discussed above, BRS does accept and feel that the criteria in the ERIC Processing Manual are relevant (e.g. document legibility, overall contribution to the field, etc.).

SOURCE AVAILABILITY

Source availability relates to whether or not the system has the capability to deliver the actual source documentation. If a curriculum guide is abstracted in the file, can the system actually provide that guide in hardcopy or microform? That basic question underlies the two alternatives under this feature. Should the system be source-based (able to deliver) or referral-based (no delivery capability). Although the ultimate design can easily accommodate both (ERIC is primarily source based - about 90% - but does have referral entries - about 10%), we have chosen to look at the extremes in order to understand the implications of choosing source-based, referral-based or a mix of the two.

In terms of utility, this feature is probably the most critical to the user. Little is more frustrating to the practitioner seeking information for immediate use than to have a "system" provide a brief description of a practice that potentially solves his/her problem only to find that beyond the brief description, little or nothing is readily available. In the early stages of development, special care must be taken to avoid this situation. This factor was the underlying reason for the previous discussion related to initially limiting the file to print materials.

SA 1 Source-Based System

Developing a source-based system (capable of delivering the actual source material in hardcopy or microform) for print materials is the most feasible alternative. The actual material can be reviewed during processing and accurate abstracting and indexing easily undertaken. Further, the actual material can then be placed on microfiche making a source surrogate and the source readily available to the user.

Copyrighted materials, AV materials or materials unsuitable for printing present a more complex problem since the "system" cannot house and deliver these source materials effectively without creating a multitude of resource centers whose cost would be prohibitive. Intermediate documentation of copyrighted or AV materials can help alleviate this problem somewhat. This technique would provide system capability to deliver a material description via computer and a more detailed printed (microcopy) description of how the material is actually used, in what context and with what expected results.

This is a feasible technique provided the producers of copyrighted and AV materials prepare such descrptions. Implementation of this "intermediary" documentation step provides the user with much more information upon which to determine relevance and is much more of a system service than a non-source based system. NIE (1976) has produced "Guidelines for Submitting Backup Product Information Packages" that might be used to structure the requirements for this "intermediary" documentation. Neither technical nor cost considerations would prohibit this alternative since it is currently the practice of ERIC, though modified to accommodate copyrighted or AV material descriptions prepared by producers. There is some danger in relying upon the descriptions of copyrighted or AV materials when those descriptions are prepared by the producer but the system could not afford the creation of such descriptions as a system expense.

SA 2 Non-source based system (referral)

In concept, the notion of a non-source based system is a distinct departure from ERIC (ERIC only contains 10.5% Level III entries) and the notion of the "one stop shop". In essence, there would be nothing more than a practice description in abstract form housed in a computerized format. Any success of user follow-up to obtain further information or source materials would be completely beyond the responsibility of the system. The Practice File effort would be strictly limited to a file or database in its basic form.

In terms of technical and cost considerations this alternative is extremely attractive. However, with regard to utility to the user, it is much less a service and depends on the ability and willingness of producers to adequately respond to a potential deluge of requests.

The "computer based resource units" system developed at a State University in Buffalo, New York was initially such a system. Users quickly found that to know about an inaccessable material provided them little benefit in their classrooms. In recent years the ERIC practice of "flagging" documents not available in the monthly and annual indices as well as in the computerized file grew mainly from the users desire to know, "up front", what was not available so they might avoid it. Following the above reasoning, an Education Practice File designed for the practitioner with little time to seek out source materials must be more than just a referral system, at least in the pilot stages when user attitudes about the file are in a formative period.

Summary of Set #1

The following appear to be the major points relating to the file features in Set #1:

CONTENT

-The broadest possible range of content types should be examined during the pilot test.

-Subject limitations should be employed, given the size limitations on the test file.

ACQUISITIONS

-Although acquisition may be accomplished within or outside of the ERIC system, it is not envisioned that other functions (e.g. processing) would be done outside.

-In the early stages of development (not inclusive of the pilot test), a distinct organizational entity should be concerned with file development and management.

SELECTION

-While the issue of qualitative assessment of practices for file inclusion is a complex one, it is important that some level of assessment be attempted in the pilot test. Just as the JDRP process has heightened the level of awareness regarding the need for adequate documentation and sound evaluation, so also could a Practice File promote more meaningful communication regarding educational practice.

SOURCE AVAILABILITY

-However defined, the delivery of source materials appears to be a critical requirement for the practice file.

Set #2

The file features dealt with in this set relate to the internal system considerations of processing, file maintenance and vocabulary development and maintenance.

PROCESSING

All previous discussion and documentation (the RFP, sources of input for Product 1.1, internal and external advisory group meetings) related to the Practice File yielded general agreement that processing of materials should adhere to the ERIC procedures. None of the alternatives discussed in Set #1 prohibit this adherence.

With regard to the surrogate format, the following information fields are alternatives for inclusion. This first grouping of alternatives are either self explanatory or simply require agreement as to standard terminology to be used. They originated in Product 1.1 and were included for consideration in Product 1.3. Certainly all are feasible and increase utility of the file since they would be searchable fields:

P1	Indication of type of evaluation conducted, when it was conducted and by whom
P2	Funding source (agency and legislation)
P4	Location code (state) where practice is active
P6	Initiation date
P9	Target population (student) of the practice
P13	Contact person (phone and address) where practice is active
P14	Materials availability and cost
P16	Scale of measured student outcomes (Feasible if agreement can be reached regarding expression of the outcomes or, if included as an option with little attempt to standardize)

The remaining alternatives are presented and briefly discussed separately.

P3 Recommended for inclusion in the file by (source)

This alternative is particularly relevant to a selection process that incorporates a multi-level screening process as mentioned in selection alternative S2/S4b. It was intended to both provide the user with some means of determining authenticity as well as to alleviate the potential pressure on the system for the inclusion of input of questionable quality. There are n reasons why this is not a feasible field.

P8 Indication as to where the project is or has been used or adapted (at least type of setting (ie. middle school) in sites other than the one being reported

This information might be more appropriately dealt with in the abstract format but can be a distinct information field. When including this information, clearance must be acquired from the location listed so it is understood that the replication site must be prepared for responding to requests. The question of whether a producer knows where his/her products have been replicated undermines the feasibility of this alternative as a utilitarian data element. However, it can be an optional element.

P10 Financial requirements for replication

For such things as required staffing or materials, this is a relatively simple matter. However, since few replications are truly replications, estimating costs can only serve as a relative scale.

Further, if replication is being considered as a distinct possibility, the user would have had to investigate the practice in some detail thus uncovering both obvious and hidden costs. Also, a cost figure assumes that all users start at a common level with regard to the practice. Financial requirements regarding only material needs assumed to be lacking in potential replication sites might be the only feasible costs to include that would have generalized meaning.

Experience of the New York State PIPS coordinator (Frank Thompson) indicates that costs for installation range from zero to $6,000 depending upon characteristics of, or decisions made by the transfer site. The unique nature of these costs as they relate to specific settings makes generalizations about replication costs of little value to the user and literally impossible to collect in a standardized way.

P 11 Transferability Scale

This information is intended to provide the user with an indication as to whether the practice is adaptable to his/her setting. It would seem that routine inclusion of grade level, content, subject and technique descriptors as well as narrative regarding context of use, evaluation methods, student target population and some indication of cost information provides a user with sufficient information regarding transferability. If not, inclusion of the contact person for further follow-up should lead to easy determination of relevancy transfer.

Certainly there are some demographic, organizational and personal variables that facilitate or hinder transferability. However, to include a scale of these characteristics not only is an extremely costly undertaking, but assumes that the limits of individual creativity are known. Moreover, the limitations of evaluation technology applied to real educational settings would reduce the technical feasibility of using such scales.

This alternative, if focused on the type of setting where a practice has been used or adapted, is included already as alternative P8 (indication as to where the project is or has been used or adapted - at least type of setting). For all practical purposes then, this alternative is eliminated from consideration as a separate alternative.

P12 Extent of training or technical assistance services available

The inclusion of this information is useful both for the user and the producer. The user can quickly determine whether the producers are available for follow-up consultation and to what extent. Also, producers not able to provide follow-up consultation or assistance can clearly state that fact and thereby avoid requests for assistance they cannot provide. In fact, a producer could state: "Cannot respond to information requests" and thus clearly indicate the unwillingness and/or inability of his/her agency to assume the clerical and postage costs associated with a response that says nothing more than "we cannot respond".

It is likely that technical assistance related to any practice in the file might be available from many individuals and organizations. Providing such information, however, closely approximates the function of a human resource file and is beyond the scope of this project. On the other hand, citing the non-availability of technical assistance or training implies none is available when infact there may be many sources of assistance in existence elsewhere. This problemmatic situation is strong evidence that a human resource file development activity would be a valuable complementary effort to the development of a Practice File. This notion is supported by Campeau and Roberts (1974) who state:

> Simply providing good descriptive materials and curriculum materials is not enough to guarantee a successful replication. New sites need specific kinds and amounts of technical assistance to successfully implement the innovative program or practice. (p. 2)

Also, Turnbull (1974), based on ten case studies of diffusion for R&D products, found:

> Innovations seem to have the greatest prospect for success when they involve a tangible product coupled with provision for training. (p. 3)

Lastly, the JDRP states (1977) that:

> Practices and "methods" refer to systematic programs, procedures, or techniques whose adoption or adaptation requires assistance from their originators or their representatives. (p. III-2)

The Project Advisory Group suggested that, rather than citing the availability of training or technical assistance, it would be of greater value and feasibility to indicate whether or not technical assistance is suggested as a critical element for successful implementation. This provides the user with an indication as to whether or not he/she should approach a technical assistance "brokerage" for help with implementation (this is precisely where a human resource file would be of significant value).

This suggestion by the Project Advisory Group is also attractive since it minimizes the user expectations of what a specific practice staff can provide. In many cases (specifically NDN), practice staff are limited under contract to the geographic area and number of clients they can serve.

P 15 Descriptive information regarding material use

This information might best be optionally included in the abstract and would normally be discussed in an ERIC abstract at least to some degree. A separate field for this information would not seem appropriate and inclusion of this contextual use data could be suggested as part of the processing manual for those instructional use materials included in the Practice File.

Aside from considerations regarding placement of this information, tracking the use of materials is extremely difficult. A Project Advisory Committee member (MacIntyre) indicated that the Far West Laboratory and CEMREL had attempted such a follow-up but found it to be impossible. Contrary to that experience, however, Mr. Edward Ball of the American Publishers Association reports that publishers do undertake successful follow-up of commercial materials on a sample basis. Whatever the variables are that determine whether or not one can track and document the use of materials, it represents an extremely costly undertaking and therefore of questionable cost-effectiveness.

P 17 A date for each data element to indicate recency of updating

Though this alternative was rejected as it stands by the NIE Internal Advisory Committee, it was felt that data elements such as those for evaluation data or evaluation method, contact person, suggested technical assistance and availability of materials should accommodate this capability. In addition, there should be a field for noting the date of the most recent updating of the file entry. Another suggestion put forth by the Project Advisory Group was to include update information for all items but only if they have been updated. Using that technique, the file entry date would stand for all critical data elements unless noted otherwise.

Another alternative suggestion by the NIE Committee within the context of search and retrieval (SR5), but one that deals with processing concerns, relates to the utilization of a highly structured abstract as opposed to the current ERIC type abstract. The highly structured abstract would be designed to specifically elicit responses to information areas such as target student population to insure that the narrative dealt with those basic information requirements. This technique is especially useful if the abstracts are created by producers since it reduces the amount of subjectivity. However, in a design where abstracts and other processing is centralized, the highly structured abstract loses its value and appeal and is less readable than the narrative approach currently used. A highly feasible option is to structure only a few portions of the abstract such as those noted above (P 8 and P 15).

FILE MAINTENANCE

As with processing, there is general agreement among the users, and both project advisory groups that the Practice File must have and fully utilize a system purge and update capability. Since that alternative (FM 1) is the only one to be considered within the file maintenance feature, the focus of discussion here is on variations of that capability.

The first variations with regard to a purge capability relate to the mechanism for initiating and accomplishing a purge or update of specific data elements or an entire file entry. Determining the need to update the file must be the ultimate responsibility of the file contractor and the organizations with which the system has relationships for acquisitions purposes. The updatings and purgings can be precipitated by system initiatives such as generating a file entry and appropriate mailing label and asking the producer if the entry is still valid as is. Whether the updating is precipitated by the system or initiated by the practice producers or others outside the formal system, the actual updating of the file must be an internal system responsibility and part of a file maintenance scope of work.

Methods proposed for accomplishing the communications and updating are:

1. Via the mail where system or non-system initiated file changes are simply mailed to a central location where online updating is accomplished. This is the least costly alternative.

2. Via an -800- phone number with a recording device that simply speeds the communication over that of the mail.

3. Via a remote online computer terminal which represents a decentralized portion of the Practice File system (perhaps a Practice File clearinghouse). This is the most costly alternative, but may be more cost effective if other features/service are desired.

An online, remote capability within a clearinghouse or other organization responsible for managing and maintaining the file could also be used for file building (new acquisitions). A micro-computer could be utilized to edit, correct, store and transmit new file entries to a centralized computer facility housing the Practice File. Also, utilizing either alternative #1 or #2 above, updating and purging could also be accomplished with the micro-computer utilized as a communication device to the central computer facility. Purged materials could be removed from the central file, but stored in the micro for archival and/or research purposes. This capability was investigated by the New York State Education Department and BRS shall be implementing it for them over the next few months.

Since the application of the micro allows for editing of original file entries, file updating, and main file purging without actual loss of documentation, it is an extremely useful and highly feasible alternative. Ultimate costs are a function of how decentralized this system capability becomes. Initially, installation of one micro for the pilot and field test phases of this program would be both beneficial and cost-effective in order to test this capability for further implementation.

A micro-computer could also be utilized to house short-term information regarding user feedback specific to certain entries. This informal evaluative information could be collected and made available by the Practice File Clearinghouse. Technically, there are no reasons why this remote, on-line capability using a micro-computer cannot be implemented.

It should be noted that the implementation of an online update facility nearly requires centralized processing and database delivery by a single "vendor" for economic reasons. If it were not centralized, the Practice File Clearinghouse would have to be responsible for a "real time" updating of all of the Practice File copies being used by computer facilities around the country. The communications for this process would be too costly for consideration. Annually updated tapes could be made available on a cost basis but there would be only one source for the "real time" Practice File. This is not viewed as a serious disadvantage since most terminal devices are capable of accessing the common vendor database delivery services and could subscribe to the central service. That, in addition to the availability of annually updated tapes insures widespread availability of the Practice File while still making it an extremely responsive, timely and accurate database.

It would appear that centralized database delivery has implications for governmental competition with private industry, however, any "real time" operable system funded by the Federal government would face this problem unless the communication costs to update at a variety of sources were included in a contract. The competitive bidding process would seem to reduce this problem significantly, if not entirely.

VOCABULARY DEVELOPMENT AND MAINTENANCE

Throughout the generation of the previous project products (1.1 and 1.3), this file feature was one of least controversy. Adherence to the ERIC Thesaurus, adding new terms when appropriate (VM 1) was the sole alternative suggested by the NIE Internal Advisory Committee as documented in Product 1.3. There is no question of feasibility, cost or utility for this alternative since ERIC has long utilized this process. The only modification suggested for this alternative was more frequent and efficient use of the Vocabulary Improvement Committee to expedite the addition of new terms.

Though this direction is fully feasible as it stands now, every descriptor term in the Thesaurus is a term used for one or more ERIC documents. Adding new terms that just relate to the Practice File could mislead the user if the files were not merged. To avoid this problem, the Project Advisory Group suggested entering the new Practice File terms in a separate section of the Thesaurus or entering them where appropriate but in a different color print. One of those two options would clearly indicate to the user that the term related to the Practice File and may not have been used for indexing an ERIC document. Over time, the membership of the Vocabulary Improvement Committee might be altered to reflect the practitioner and practices being acquired for the Practice File. Using the current Thesaurus as an announcement vehicle would make additional costs negligible.

The Annehurst Curriculum Classification System (ACCS) mentioned earlier concerns itself, in part, with the classification of materials in terms of human characteristics and subject matter. This system will be further explored during the pilot test as a means for Thesaurus development. In fact, the ACCS Thesaurus is organized around learner interests and should be of particular value for the Practice File as its development proceeds.

Set #3

This group of file design features relates to the delivery/deliverable aspects of the file design. These features - search and retrieval, user products and user services - directly impinge upon the user.

SEARCH AND RETRIEVAL

The two alternatives within this file feature do not represent opposing choices but rather options for improving ultimate availability and delivery of the Practice File.

SR 1 Suggested format modifications (shown under the Processing feature) be made searchable

The suggested format modifications finally selected under "PROCESSING" are anticipated as being separate information fields with the exception of replication information (P8) and descriptive information regarding material use (P15). The agreement as to what these fields should contain as information items within each field should not be a difficult task and for the pilot test can be accomplished by project staff and the Project Advisory Committee.

To include these information fields without making them searchable with known choices within each field would negate their inclusion as utilitarian fields. Minimal additional costs are involved for including these fields and no increased technical capability is required to efficiently search them with current programming.

SR 2 Practice File searchable with ERIC (ED and EJ)

Through the process of concatenation, the Practice File can easily be made searchable with ERIC. Most users do not realize that when ERIC is searched now, the search usually is of both the "ED" and "EJ" files. Making the Practice File searchable in the same manner presents no technical or cost problems and and in so doing the ability to search just the Practice File is not lost just as one may now search only the "ED" portion of the ERIC files.

Having the Practice File searchable with ERIC is an advantage both for the searcher and the user since little or no retraining is required and output to a requestor is a single printout of ED, EJ and EP (Educational Practice) abstracts/annotations.

USER PRODUCTS

The alternatives discussed here relate specifically to system produced materials to better inform the user what the file contains.

UP 1 Monthly and annual catalogs

UP 2 No monthly or annual catalogs

These first two alternatives relate to whether or not the system should routinely produce catalogs of entries to the file. There is no question but what routine, printed monthly catalogs of new file entries is and has been a product of high utility for potential file users. The probability of this utility being equally as high for the Practice File is questionable given the potential inclusion in the file design of a regular purge and update capacity. This capacity, if implemented for the Practice File, would make monthly catalogs more an archival tool than a file usage tool since original record entries cited in the catalog might be significantly amended or purged thus rendering the catalog entry inaccurate for the user interested in following-up on a practice. Update sheets could be included with the monthly catalogs but it is difficult to envision a user taking the time to wade through monthly catalogs and tracking update records when typical users of ERIC today do not spend that amount of time manually searching.

If we are to rely on technology and the advantages it affords to develop a "real time" system, certain traditional methods such as mass production and distribution of monthly catalogs must be carefully analyzed for their true value. There is a natural tendency for humans to take the path of least resistance and this is exemplified by the phone users who dial "information" rather than using the telephone book.

This practice has become so widespread that we are now charged by the phone company for "misuse" of this capability. If the Practice File is to go beyond what we know today, we must build upon these known behavior patterns and rely on the system technology more heavily. This same inadequacy is true of an annual catalog though less severe since it represents a less frequent documentation of the Practice File.

UP 3 Hardcopy SDI publications targeted by audience and content for periodically announcing new acquisitions

This method of announcing new acquisitions is a technique frequently used by information centers whereby elementary school teachers (for example) are routinely mailed a listing of the new elementary level materials acquired by a center. This technique, if accomplished for all file content does provide a "system documentation" for archival purposes. At the same time, SDI publications are generally viewed by librarians and users as a publication of less "permanence" than a catalog. An SDI could, in fact, indicate the effective date and state that file entries are continually updated. In addition to the typical SDI publications, this technique could be routinely used in place of the monthly catalog as an announcement vehicle. Techniques for searching, creating a tape, then printing a catalog might also be devised to produce such documenation as the OE Programs That Work. These techniques are more realistic awareness tool in that users, if identified correctly, are not required to access their interests as part of a larger listing. It is much more personalized and more of a system service.

NOTE: Both alternatives above are feasible and during a field test (following the pilot test since that is only to be three months), both could be tried and evaluation data gathered to determine the system cost and user utility benefits of each.

UP 4 Video presentation of selected practices prepared and mass distributed for location in resource centers.

UP 5 Audio presentation of indepth typical questions and answers asked by educators considering replication.

Both of these alternatives are extremely high cost items and viewed by the NIE Internal Advisory Committee as options better considered after initial file development and dealt with perhaps as part of a field test. Obviously their high cost makes them secondary considerations at this point in the file development unless a significantly larger amount of funds are committed to the program than is anticipated. Lastly, their inclusion in the pilot test would not be possible since development time would exceed the three months available for that test.

UP 6 Lists by media

UP 7 Mini lists by topic

These two alternatives are easily accomplished by conducting file searches appropriate to each and printing the results for distribution. Since the desire for knowing media type and the need for lists by topic are (1.) frequently localized concerns at district or even classroom levels, and (2.) easily satisfied outside the system, these options might better be reserved as suggestions the system might make to information centers as products they might produce. If it is determined through usage and/or occasional surveying of information centers that there is a generalized need for these products, they would then be more efficiently produced by the system.

UP 8 Information analysis products

When it is readily determined that there is, or will be, an issue generating many information requests and high educational concern (i.e. mainstreaming, discipline problems, competency based education, etc.) an information analysis product relevant to that issue is a highly useful tool for the practitioner. The analysis product should go beyond a listing or SDI publication and offer discussion and informed opinions. Schaffarzick and Sykes recommended in their 1977 study that a Federal role be the dissemination of information and opinions on social, economic and political trends likely to affect the shape of and demands on education.

The Putting Research Into Educational Practice (PREP) series produced by OE several years ago is a prime example of such a product. There is little question but what these products were extremely useful. If cost were a system problem, funds from other sources could be sought to supplement the system capability. For instance, BEH funds might be sought to prepare an information analysis product on mainstreaming.

There is no reason why the Practice File system should not pursue the production of these products as budget permits and as cooperative funding can be arranged.

UP 9 "The best of the Practice File"

If the selection criteria for entering practices has such rigor that evaluative data available and searchable, creating a listing of the "best", in terms of student outcomes, is a simple task that can be accomplished simply by searching the file. If such a search is not an inherent capability of the file, the production of such a list becomes a much more subjective process that falls within the same parameters as an information analysis product. Methods used for producing information analysis products such as an RFP for a separate contract or use of a panel could also be used for preparing "the best of the Practice File".

It is questionable whether the system would want or could afford to produce a document citing specific practices as "the best" in light of the elaborate OE procedures employed to identify "validated" practices which are not referred to as the best, but rather, the validated practices. Until we can clearly and readily define what is best and monitor practices to include or exclude them as they and social contexts change, it would be wise to avoid a listing of the "best practices". As an alternative to "best practices", the Project Advisory Committee suggested a series called "Practices Worth Knowing About". These could be selected by an appropriate panel and thus "soften" the inference that they are in fact "the best".

Lastly, a variety of related products might be generated that cite specific practice groups such as "NDN Demonstration Sites Worth Knowing About" or "Elementary Textbooks Worth Knowing About". These would be somewhat related to an SDI but selected by a panel so as to at least have some subjective decisions made regarding the inclusion of specific practices (as opposed to an SDI where everything is included).

UP 10 Products developed by intermediaries

This alternative relates more to what the system might suggest to intermediaries as appropriate products to supplement what the system provides. Given sufficient funds, the system might offer financial support for such undertakings. Prime consideration for such product development should be given to the preparation of awareness materials regarding the Practice File and how to access it locally or regionally in order to insure widespread knowledge of its availability. In addition to that, intermediaries should be encouraged to undertake any of the above efforts that are appropriate but that the system is unable to produce or for which there is little generalized National need.

USER SERVICES

The following alternatives were viewed by the NIE Internal Advisory Committee as being desirable but high cost items in light of the basic initial task of developing the file. If certain of the preceding feature alternatives are selected, it would be possible to test one or more of these capabilities following the pilot test.

US 1 Ordering capability for commercial materials

The utility of this alternative to both the users and publishing community would be extremely high. The question of policy concerning governmental support of such an undertaking (discussed under Content) must be resolved but an expanded field test could incorporate this capacity into an existing technical capability known as a "mailbox feature". At present, this feature enables ERIC users to order microfiche directly from the ERIC microfiche vendor, placing their order via computer terminal.

US 2 User Feedback capability

Depending upon choices made within other features (specifically, whether there is online update capability and/or whether a microcomputer is employed), this alternative might be tested during the pilot or field test periods on a limited basis. This capability would allow users of the practice file to record their personal evaluations or experiences regarding specific practices. This record would then become a sub-portion of the Practice File available to other users interested in such feedback. In support of this feature, Contemporary Research Incorporated found (1974) that:

> ...a major type of information LEA's want very early in the process are "user reactions" that state good and bad points, constraints encountered, and the initial user's feelings as to whether or not the program was successful. At present, local educators rely on peer evaluations and comments as being more helpful than the type of evaluative data usually available.

US 3 General Publicity and System Orientation Program

As a system undertaking, this would appear to be a much more basic requirement than the other alternatives within this feature. This is so since if users do not understand how to use the system, or even know that it exists, announcement documents and other technically sophisticated capabilities are useless.

Those facilities currently providing users access to the ERIC database will require some training and orientation to the Practice File and its use. Some of these activities can be held in conjunction with other conferences but specific system efforts to provide information and orientation would seem a requirement rather than an "add on".

US 4 An -800- phone number for general file information questions

The feasibility of this is obvious, the utility would be high especially in the early stages of file availability while users are becoming familiar with the system. The question is simply one of sufficient funds. The potential usefulness of such an access number might be easily tested during the pilot or field testing periods. If it were proven to be ineffectual or minimally used, it could simply be discontinued.

Part II

Part I has presented some insights into the pros and cons of the various Practice File feature alternatives and raised a number of issues that are felt by BRS to be worthy of independent studies. Part II presents three alternative designs, one most like ERIC (ERIC-Like Design), a second quite far afield from ERIC (Futuristic Design), and a third (Suggested Practice File Test Design) that is in many cases a modified ERIC but incorporating differences that allow for the ultimate development of the Futuristic Design.

The third design, the Suggested Practice File Test Design, is the alternative that BRS is suggesting as the design to be pilot tested during Phase II of the project. The selection of that design configuration for the test period is based upon the evidence compiled for Products 1.1, 1.2 and this document (Product 1.4/1.5). In addition, at the Project Advisory Group meeting held in Washington, D.C. on March 16, 1978, the group reviewed a draft copy of Part I of this document and offered additional input to it. Following that, the group was divided in half and each sub-group asked to select those features they thought should be pursued as appropriate for the Practice File pilot test. Virtually unanimous agreement was reached by the two groups on every file feature alternative represented in the design called "Suggested Practice File Test Design".

Presented on the following pages is a comparison chart (Figure 1) of the three configurations representing the file feature options, a delineation Suggested Practice File Test Design features (Figure 2), and a summary discussion of utility, technical feasibility, Federal Information Policy issues and cost-efficiency for the suggested design. Also, some scenarios to clarify the operational mode of the design and a brief summary review of the issues raised in this report that require special NIE attention.

As a basis for reviewing Figure 1, it should be kept in mind that the baseline system is ERIC and that according to Program Notes offered by the NIE project monitor, the overall goal of ERIC is "to insure that report and journal literature (fugitive) about education is controlled, announced and made available to the educational community". As one looks at Figure 1 from left to right, the overall system goal becomes to make practice information less "fugitive" and more a routinely used resource for educational improvement efforts.

Figure 1

Comparison of Design Configurations

Features	ERIC DESIGN	ERIC-LIKE DESIGN	SUGGESTED PRACTICE FILE TEST DESIGN	FUTURISTIC DESIGN
Content	Original Research orientation. Audience group extremely broad as development progressed, little concern for purpose for which content would be used.	Content extremely broad, little focus on audience or audience purpose.	Focus on practitioner use materials though limited due to resources available.	All Practice Producers' materials broken into units represented with evaluation results. Companion human resource file for sources of technical assistance
Acquisition	Subject-oriented via 16 CH's. Cooperative arrangements with over 600 organizations many of which are informal relationships	Practice File absorbed as a function of the current ERIC CH's.	Separate ERIC CH to handle acquisition of educational practices. Expand current organizational relationships and create some new ones with SEA's, publishers, IA's, LEA's and Federal agencies.	Direct formal arrangements with practice producers for online entry of new practices via an Educational Practice Processing Facility.
Selection	Subjective, qualitative decision made by appropriate CH staff	Same as ERIC with greater focus on practitioner materials	Exclusive focus on educational practices requiring an indication of type of evaluation conducted and actual learner outcomes if they are available as optional data.	Exclusive focus on educational practices requiring uniform expression of learner outcomes or other measurable outcomes for non-learner practices.

Features	ERIC DESIGN	ERIC-LIKE DESIGN	SUGGESTED PRACTICE FILE TEST DESIGN	FUTURISTIC DESIGN
Source Availability	Source documents available in microfiche and hardcopy form. Primarily a source-based system.	Primarily a source-based system using microfiche for mass distribution and avoiding a large number of referral-based documentations.	Neither (primarily) source-based or referral based. Nature of source availability dependent upon practice materials.	Primarily referral-based with formal, online arrangements with producers for user access to materials via video (PBS) review. Direct, online ordering and billing capability.
Processing	Via 16 CH's to central facility. No online capability. Standard ERIC data elements. OCR input process.	Via 17 CH's (Practice CH added) to central facility. No online capability. Format modified only slightly. OCR input process.	Via 1 CH focused on practice. On-line update capability. ERIC format modified to include: P1, P2, P3, P4, P6, P8, P9, P11, P12, P13, P14, P16 and P17.	Separate educational practice system organized through educational agencies such as SEA's IA's, LEA's and Rx's. Central practice facility to coordinate system. User profiles enterable as online screen for search output. Additional search fields include teacher characteristics, LEA administration style, LEA setting type and other educational environmental variables. System can match practices to LEA's and predict success of implementation.

Features	ERIC DESIGN	ERIC-LIKE DESIGN	SUGGESTED PRACTICE FILE TEST DESIGN	FUTURISTIC DESIGN
File Maintenance	No online purge or update capability	No online purge or update capability	Online update and purge capability tested through use of micro computer in a single centralized site.	Multiple locations for online file updating and purging.
Vocabulary	Controlled ERIC Thesaurus new terms added by vocabulary improvement committee	Same as ERIC	Same as ERIC with modified procedure to speed addition of terms and modified membership of Vocabulary Improvement Committee to reflect practice content.	Automated Indexing
Search and Retrieval	ERIC fields searchable, free text capability	Same as ERIC	Same as ERIC with new fields added as indicated under processing above.	Searching based on traditional methods plus user profile information and addition of searchable variables as indicated above in processing.

Features	ERIC DESIGN	ERIC-LIKE DESIGN	SUGGESTED PRACTICE FILE TEST DESIGN	FUTURISTIC DESIGN
User Products	Annual Indices, Monthly announcement of new entries, tapes, Thesaurus, misc. directories, information analysis products.	Same as ERIC	Annual Index, SDI in place of monthly announcements, tapes, but central location for "real time" processing information analysis products.	Online index, automatic SDI to specific users and agencies based on filed profiles. Central tape location with "real time" information on contents, listings of audio and video presentations available online from producers.
User Services	Limited training and technical assistance.	Formal information and training program	Formal information and training program. Limited online user feedback capability. -800- phone number for general info questions.	Formal information and training program. Widespread, online user feedback capability. -800- phone number. Online ordering capability for desired materials. Subscription SDI's based on user profile.

As can be observed in the preceeding chart, the differences among the configurations are based upon an increasing reliance upon technology thus allowing greater system proactivity with regard to service. This is a normal evolutionary phenomenon that is observable in a variety of industries such as communications, transportation and food services. After nearly 13 years (ERIC) without basic system change, observable modifications and departure are in order for educational resources in an effort to accomplish system efficiencies and greater outreach to users.

The following chart outlines the Suggested Practice File Design features.

Figure 2

Suggested Practice File Test Design

CONTENT

C1 NDN Validated Practices

C2 SEA Validated Practices

C5 Non-validated Practices

C8 Exemplary Practices

(Other content alternatives listed in Part I are illustrative of the specific practices that might be included as one of the above categories.)

ACQUISITIONS

A1 A new ERIC clearinghouse to handle practice information exclusively.

SELECTION

S3/S11 Include all practices, citing what evaluation technique (if any) was applied and when. Actual learner outcomes can be included as a distinct field but they need not be entirely uniform and their inclusion is optional.

FILE VOLUME LIMITORS

L4 Limit content by media format or publication type.

NOTE: Limited resources and time for the pilot test will also require a limitation of subject area(s).

SOURCE AVAILABILITY

SA1/SA 2 Include file entries with source documentation available through the system (microfiche and/or hardcopy) as well as entries without source documentation requiring referral to practice producers or distributors.

PROCESSING

Include in processing the following information elements in addition to ERIC fields:

P1 Indication of type of evaluation conducted, when it was conducted and by whom

P2 Funding source expressed as agency and legislation (SEA, ESEA Title IV-C)

P3 Indication as to who recommended the practice for inclusion in the file

P4 Location code (State) where practice is active

P6 Date practice entered in the file

P8 Indication as to where the practice is or has been used or adapted. Indication can be type of setting (i.e. middle school). This information can be optional and if not provided, but available, indication should be made as to where the information can be obtained.

P9 Target population (student) of the practice where it is active

P12 Indication as to whether or not technical assistance or training are recommended to more adequately insure success of practice transfer

P13 Contact person (phone and address) where practice is active

P14 Indication as to whether materials are available and their cost

P16 Indication of measured student outcomes citing type of test and measured result. (This is an optional entry)

P17 Date indicating most recent update of specific data elements. This can be entered for selected information fields (P1, P13, P14, etc.) or only entered for fields that are updated

FILE MAINTENANCE

FM 1(3) Update and purge capability accomplished online through use of micro-computer. Purged materials not lost, rather stored on a "purge disc" on the Practice Clearinghouse micro for research purposes.

VOCABULARY DEVELOPMENT and MAINTENANCE

VM 1 Utilize the ERIC Thesaurus, adding new terms as required. New terms to be included in future Thesaurus editions with an indication (separate list or different color print) that they relate to Practice File entries. The Annehurst Thesaurus will be explored for new terms.

Future modification of Vocabulary Improvement Committee membership to reflect practitioners and modification of the "new terms procedure" to speed that process.

SEARCH and RETRIEVAL

SR 1 The additional information entries shown under Processing (above) are to be searchable

SR 2 The Practice File shall be searchable with ERIC much the same as ED and EJ portions of the file are concurrently searchable at present.

USER PRODUCTS

UP 1 (modified) Annual catalog only. Monthly announcements to be SDI-oriented (see below)

UP 3 Hardcopy SDI publications targeted by audience and content for periodically announcing new acquisitions. Mini-lists (UP 7) of previously entered material can also be generated with this SDI publication as can publications such as "Practices Worth Knowing About" (UP 9)

UP 8 Information analysis products

USER SERVICES

US 1 Ordering capability for commercial and non-commercial products

US 2 Online user feedback capability

US 3 General publicity and system orientation program

US 4 An -800- phone number for general inquiries (not for searches)

Feasibility Discussion

The following narrative is a summary discussion of each file feature as suggested in relation to utility benefits, technical feasibility, Federal information policy issues and cost-efficiency. The narrative draws upon the discussion in Part I but also indicates some new considerations created by the relationship of each feature with the context of the suggested Practice File Test Design.

Content

Utility Benefits: Statistics regarding current ERIC usage, published by ERIC Central place the combined teacher/school administrator user group at 32% on an annual basis. That represents some 32,000 teachers and administrators per year (that ERIC Central is aware of). Further, ERIC statistics indicate that 62% of the users are undergraduate or graduate students. Most certainly, many of the graduate students are teachers taking coursework. Therefore, the figures regarding practitioner use of ERIC are probably conservative. A user profile of the New York State ERIC service, accomplished in 1971 demonstrated that 15.5% of the users were teachers (not as students) but an additional 34.5% were teachers doing graduate coursework. That same survey showed local administrator use at 8.4%. The combined "practitioner total" then would be 58.4%. Thus, more than one half of the users of ERIC, a file orginally targeted for the researcher, were practitioners. The utility of a file, namely the Practice File, whose target audience is the practitioner is obvious in light of the use practitioners make of ERIC.

Technical Feasibility: The technical feasibility of including the NDN/SEA validated practices and exemplary programs is extremely high since the sources for acquisition purposes are clear. Also, the feasibility of coding and retrieving NDN and SEA validated practices has been demonstrated both by the Macomb Intermediate School District in Michigan and the New York State Education Department.

Exemplary and non-validated practices can be acquired through SEA, LA's, LEA's and Rx's with much the same acquisition procedure that current ERIC CH's have. Some ERIC CH's have already begun to collect "locally developed materials," and Practice File efforts for this content area might be built upon those efforts.

Federal Information Policy Issues: The major policy issue relates to the inclusion of commercially produced materials and the implication of conflict between Federal and private roles in marketing. If the practice file is viewed simply as an automated library, the issue is less potent. Also, commercial materials are already cited in ERIC, so the issue as it relates strictly to the content feature is diminished.

Cost-Efficiency: The current cost to practitioners and intermediaries for manually searching this information (suggested content) is extremely high (5-6 person hours) and in many cases prohibitive. The same search of the same material included in the automated practice file can be accomplished by an intermediary in a matter of seconds and minutes.

Acquisitions

Utility Benefits: A new ERIC clearinghouse dealing exclusively with practices allows practitioners an identifiable organizational point of entry for the system. If practice acquisitions were spread among the current clearinghouses, there would be no such identifiable point and the process might be lost among other ERIC clearinghouse efforts. The existence of this project is evidence of a perceived NIE need to specifically address educational practice. Since that is the case, it should be addressed in an identifiable, rather highly visible way.

At the same time, to build a completely separate system outside of ERIC would represent a gross duplication of effort.

Technical Feasibility: A new ERIC Clearinghouse for Educational Practice could build upon existing clearinghouse relationships and forge some new relationships with IA's, SEA's and Regional Exchanges if they are not duplicatory.

Also, the "real time" system inherent to this design make a separate organization a much more viable means for handling online editing, updating and purging. Coordination of these tasks across 16 clearinghouses would be impractical. A recent Research and Development Exchange paper (Chow, 1977) suggests the following sources for information regarding research and development efforts:

-NIE Monitors -Developers

-Publishers -Distributors

-Evaluators -Users/Teachers

-Linker agents -Lab & Center Staff

-Rx Staff -Instructional material personnel

This list is transferrable for other acquisition efforts and might be utilized in addition to the agencies mentioned above.

Federal Information Policy Issues: The only policy relating to this file feature is that related to whether or not this effort shall be in or out of ERIC and if in (as is suggested) will it be a separate clearinghouse (as is also suggested).

Cost-Efficiency: A new ERIC clearinghouse affords a common Federal level administering body, common administrative guidance, coordination of the educational resource development efforts and common processing procedures. To establish a separate structure when there is no apparent need would be wasteful.

Supplemental funds may be required in order to effectively implement a productive acquisition process that reaches the local level. This is so since there are few local incentives for including materials in the file.

Selection

Utility Benefits: Including the type of evaluation technique does allow the user some selective capability. It avoids selection on the basis of uniform expression of learner outcomes and leaves inclusion of practices up to the Practice Clearinghouse staff within the volume limitations they have

because of resource availability. A move toward practice outcomes is evident in this design (though that data is currently optional). It should be noted here that the inclusion of optional "outcome" data is an attempt to provide a basis for comparative user data. This is done with heed to the Eisner and Vallance (1974) reference cited in Part I, under the Selection section.

Technical Feasibility: There are no technical difficulties inherent to the inclusion of this information. It can be acquired as indicated in Part I under Selection, alternative S3/S11.

Federal Information Policy: As the system moves more toward expression of outcomes, there is the question as to whether or not the Federal Government can undertake evaluation of commercial materials for purposes of dissemination? This is an unanswered question.

Cost-Efficiency: Costs of this design feature are minimal and relate to the routine entry of this additional data.

Source Availability

Utility Benefits: The benefits of system capability to deliver source documentation are accrued to the user who is not required to go elsewhere. At the same time, not to inform the user of a practice simply because the system cannot deliver source documentation is a disservice. Strong evidence of user perceptions of the usefulness of referral information about new

practices was cited by Mr. Harry Osgood of ACES in Connecticut (PAG member).

Technical Feasibility: Printed source documentation can be made available on microfiche, referral can be accomplished much the same as Level III ERIC materials.

Federal Information Policy Issues: None other than a philosophical debate as to whether the file should be primarily source - or referral - based.

Cost-Efficiency: Processing costs for either source-based or referral documentation would be no greater than ERIC (about $50-$60 per document).

Processing

Utility Benefits: The specific utility of each additional information element is indicated in Part I. The overall utility of including this information resides in the more clearly defined nature of the practice and the ability of the user or intermediary to search the file based on all or any combination of those additional elements. The relevancy of retrieved information should be somewhat improved over ERIC as the file becomes more comprehensive.

Technical Feasibility: As indicated in Part I, there are no serious technical difficulties with the inclusion of this information. Some updating may be tedious for items such as contact person, materials availability and cost, but automation of some aspects of that follow-up, updating procedure can alleviate many of the time-consuming tasks.

Federal Information Policy Issues: None of the additional data elements require or raise policy considerations.

Cost-Efficiency: The procedure for adding these information elements will be efficient especially since many of the practices are validated or exemplary for which this information is readily available.

The benefits are ultimately accrued to the user in terms of cost-benefits. The alternative is not to have this information therefore the cost-benefits are difficult to ascertain.

File Maintenance

Utility Benefits: The utility of a "real time" system with online entry, update and purge capability is obvious for an activity such as is represented by an airline reservation system. For the user, data entry time shall be decreased significantly from the six months now required for ERIC (how much superior can be determined by the pilot test). Updating and purging of file records can be accomplished in a matter of days whereas this does not happen with ERIC with any degree of regularity.

Technical Feasibility: The technical feasibility of this capability will be demonstrated on a small scale by the New York State Education Department through application of a micro-computer.

Federal Information Policy Issues: The only policy concerns raised by this feature relate to the provision of only a single source (vendor) for the "real time" practice file. This is mentioned in Part I and in a later section under policy issues.

Cost-Efficiency: In justifying the application of a micro-computer in New York State, it was demonstrated that the keypunch entry system was far less efficient (documentation available at NIE). An OCR entry system, though just as efficient for initial data entry requires a print-out, hand edit, and line card correction procedure for editing prior to file creation. With a micro, this is all done in an online mode with editing corrections accomplished on a CRT requiring no print-out and no line card correction process.

Supplemental funds will be required to provide staff concerned with file updating and purging.

Vocabulary Development and Maintenance

Utility Benefits: Adherence to the ERIC Thesaurus terms and using that publication as the source of new Practice File terms does not create any relearning problem for users and combines what would otherwise be two tools for the information intermediary.

Technical Feasibility: There are no technical difficulties. Segregation of the terms could be easily maintained to avoid the possible assumption that ERIC documents were present for a practice file term. (See discussion in Part I).

Federal Information Policy Issues: No issues are raised by this file design feature.

Cost-Efficiency: Utilizing a current publication does not require separate GPO or private contracting. The current publication procedure can be maintained and the only additional cost being the added print. Developmental costs for selecting new terms may be initially high due to the person days involved in term selection. However, as the file is operationalized this would decrease significantly.

Search and Retrieval

Utility Benefits: The utility benefits related to making the added information fields are discussed above under Processing. Making the Practice File searchable with ERIC would be of significant value to the information intermediary since a distinct, separate "sign-in" to the Practice File would not be required. This capability does not preclude searching the Practice File separately.

Technical Feasibility: The Practice File can be merged (concantenated) with ERIC in the same manner that ED and EJ are currently merged.

Federal Information Policy Issues: No policy issues are raised by this feature.

Cost-Efficiency: There are no additional system costs to make the file searchable with ERIC or to make the additional information fields searchable. As mentioned above, the efficiencies are accrued by the user and the information intermediaries.

User Products

Utility Benefits: The printed annual catalog, SDI publications and information analysis products are all user oriented and serve as a primary interface with the practitioner. Though the monthly SDI approach is somewhat of a departure from the ERIC comprehensive monthly journals (RIE and CIJE), their utility will be no less. ERIC Central reports that 190,600 persons use RIE weekly and 138,000 persons use CIJE weekly. Those figures give some indication of the utility of these user products.

Technical Feasibility: There are no technical reasons why these products cannot be published.

Federal Information Policy Issues: There are no policy issues other than a service policy question related to the non-availability of a single, comprehensive monthly journal in favor of a monthly SDI.

Cost-Efficiency: SDI distribution would be higher than RIE simply because the SDI is a more targeted technique and of value beyond the information intermediary. However, the subscription to the SDI can be based on a cost recovery basis or on a loss/profit margin similar to RIE and CIJE.

User Services

Utility Benefits: The user services inherent to the suggested design (ordering capability, user feedback mechanism, PR program and -800- phone number) are all techniques to bring the resource system and the user closer together. The closer the system is to the practitioner, the more relevant the resource will be.

Technical Feasibility: As mentioned in Part I, all of these services are technically feasible. It is, however, recommended that the ordering capability for commercial practices be deferred until after the pilot and that the user feedback mechanism be limited during the pilot.

Federal Information Policy Issues: The ordering of commercial products via a Government support system raises the issue of whether the government can underwrite mechanisms to increase user access and facilitate actual ordering transactions for private firms. Other than the concept of a "teacher store", we know of no precedents.

Cost-Efficiency: Measuring the cost of delivering the services can be calculated fairly accurately given the time and accurate projections of usage. However, measuring the efficiencies in terms of benefits accrued the practitioners, intermediaries or perhaps the system itself is hard to say. How might Central ERIC discuss the cost-efficiency of the publication "How to Use ERIC", or the cost-efficiency of providing regional training programs?

Scenarios

Although the preceding sections of this report provide some discussion of recommended alternatives for each file feature, it may be difficult to envision some of the implications of their implementation. The following comments provide a brief delineation of issues related to four file features. These four were selected because they represent the most substantial modifications of present practice with the ERIC file.

Content

Content is the most critical feature of the education practices file. Determining the content which will be most useful requires that some recognition be given to assumptions concerning the total dissemination system in which the practice will exist.

These assumptions are:

1. For the foreseeable future, the classroom teacher and/or building principal, though the ultimate file audience, will not directly interface with the file except in rare instances (not the predominent mode of use).
2. Some form of intermediary agent or organization will exist between the teacher or principal and the education practice file. (Kotler, 1977, Campeau and Roberts, 1974)
3. The barriers to direct file interface with the file are more than technological. The organization of the teacher's time, the decision making patterns in schools, and the lack of incentives are others.

4. The motivations which drive teachers and principals to seek and use alternative educational practices are not the same as those for intermediaries. For example, while teachers pay little attention to formal evidence of effectiveness (Doyle and Ponder, 1977, Turnbull, 1974, 1975, Brickley, 1975), it is likely that intermediaries will do so because:

   a. They wish to defend the judgments they make in conducting transformation of the file output (Kotler, 1977).

   b. The political sensitivities of the linking agent or agency are likely to be stronger than those for the ultimate user. Specifically, the development of formal accountability systems in many states will impact more heavily on intermediaries (whether external or internal) than on the teacher or principal (Datta, 1977).

   c. The incentives for promoting the use of validated materials are greater than for non-validated, and many SEA IV-C programs support adaptations of validated practices. Intermediaries will want to be able to provide such support resource to their clients.

5. Non-validated practices and materials will most likely be used to fill in the gaps left by the other categories. Since gaps will continue to exist, these categories will continue to be of use.
6. The incentives for using commercially developed practices are likely to be higher at the teacher and principal level than at the intermediary level. Local district selection and procurement procedures can accommodate commercial practices more readily than non-commercial, validated programs. Since linkers or linking organizations may be tied to funding agencies for non-commercial products, they may be inclined to advocate use of non-commercial materials more frequently.
7. Since an intermediary will usually exist between the file and the user, and since the practice file is one of several sources used by the intermediary in responding to the user's needs, it is likely that practice file content will be merged by the intermediary with content from other files (automated or manual).
8. An education practice file will serve as an important but not exclusive factor in effecting practice. Teachers and principals will require some form of personal assistance to use the file. Efforts to create a "teacher-proof" file will not be productive (Emrick, 1977, Turnbull, 1974, 1975).

9. Although validation information will likely impact on the intermediaries transformation, this will most likely not restrict the range of adaptation which the linker promotes (Hall and Alford, 1976).

Acquisitions and File Maintenance

Certain design specifications of the practice file require that acquisitions and file maintenance not be viewed as separately as they are in ERIC. These specifications are:

1. Need for on-going updating of file records.
2. Need for new relationships for acquisition.

A scenario of the operation of the acquisition and file maintenance processes would likely have the following elements:

1. Because of requirements for on-going updating of file records, file maintenance will be much more critical to the practice file than is the case with ERIC. Acquisitions and file maintenance will thus be coupled more closely. The relationships required to support such a system will differ not only in content (i.e., new organizations) but in their intensity.
2. Incentives for promoting acquisition and maintenance will need to be greatly strengthened, but differential emphasis will be needed. The present incentives for getting commercial materials and validated practices into the file are likely to be sufficient for the future. This will likely be the case with updating processes as well. The financial incentives are

built in for these types. This is not the case for non-validated or exemplary practices or for such content alternatives as locally-developed curriculum materials. It may be that direct financial incentives need to be provided or that various dissemination agencies or agents will need to be funded to search out materials and maintain relationships.

3. In order to maintain an adequate acquisition and file maintenance system, the Practice File clearinghouse will need to develop a complex set of relationships reaching as close to the local district level as is practical. The system will develop out from the Clearinghouse through regional dissemination agencies such as the regional exchanges of the RDx, through State Education Agencies and intermediate units. The system will likely develop around such agencies already in the dissemination business, although at present many of these do not perform adequate acquisition activities for ERIC.

User Services

As with other file features, an important consideration is the definition of user - the target audience for the services provided. The following points regarding user services assume that the primary file users are the persons who work in information centers and intermediary agents or agencies. The teacher or principal may not have to know there is a practice file (although

this may be important for federal public relations) but would need to know of organizational sources of information and assistance. The conduct of user services as proposed in the file design will likely be characterized by the following:

1. Outreach activities will be targeted at intermediaries rather than at teachers and principals. Presentations at national meetings will be focused on National Dissemination Forums, NDCP meetings, ERIC tape user conferences, NDN and Title IV conferences.
2. Orientation and training will be focused primarily on the personnel who work in information centers - staff who actually interact with the data base.
3. Building in a user feedback technique will likely be an important feature of user services which is related to file maintenance (CRI, 1974). Given the definition of user assumed here, the feedback will come from the intermediary based upon client feedback or upon the intermediaries own assessment of specific practices or materials in addressing client's needs.

   The "scratch pad technique" suggested as a user service would likely not be used directly by the teacher or principal but could be facilitated through special feedback forms collected and analyzed by the intermediary or the information resource person.

4. Given the availability of an ordering capability, it is likely that it will be exercised by the information center rather than directly by the requestor. This process will be similar to the source documentation ordering process employed now by most information services whereby the requestor completes an order form and gives it to the intermediary or sends it directly to the information center.

Summary of Policy Issues

Since the intent of this document is focused on the consideration of the design features, and since NIE has asked BRS to specifically point out policy issues uncovered by the design work, this brief section is included to isolate the policy issues uncovered and mentioned elsewhere in the document.

1. Selection as a policy issue

   This is dealt with in a separate paper prepared by BRS. The basic thrust of that paper relates to whether or not the government shall determine input to a file based upon learner outcomes. The suggested design for the Practice File does not include this process but it should be considered. A second part of this issue relates to the inclusion of all practices with some uniform expression of learner outcomes included. The management implications of such a system are substantial as are both the positive and negative ramifications of its use. The separate BRS paper and a scenario in Product 1.1 address this issue directly.

2. Governmental involvement in the commercial sector (see Part I Content section, C9)

   The two policy questions here relate to whether the government can undertake evaluation of commercially produced materials (for dissemination purposes) and whether the government can underwrite mechanisms to increase user access to commercial materials (through "examination copies" or through automated ordering/billing arrangements)? These questions are

unanswered although Schaffarzick and Sykes (1977) indicate that "three values people commonly have from government are representativeness, technical competence and leadership; each acting as the basis for a claim to legitimacy". These expectations should be kept in mind when this policy issue is formally addressed.

3. The need for a human resource file (see Part I, Processing section, alternative P12).

   The intent of the practice file is to provide an array of options for practitioners seeking to improve specific learning situations. Evidence is mounting (Emerick, 1978) that supports the notion that the availability of practice materials is not sufficient and that a human interface offering assistance is also required. The sources of this assistance far surpass that which is inferred by a single Practice File entry (the contact person). A human resource file developed as a companion to the Practice File would be a valuable, and ultimately, perhaps required, resource development effort.

4. Centralized database delivery as governmental competition with the private sector (see Part I, File Maintenance Section, alternative 3 under FM 1).

   Since this design includes the provision for "real time" data entry, updating and purging, a centralized database is

required until such time that communication costs drop drastically allowing for remote entry, updating and purging in multiple locations from a remote Practice File Clearinghouse or by practice producers themselves. Until that time, this issue shall be present.

As mentioned in Part I, it would seem that a competitive bidding process for the "real time" vendor, the ability of most users to tie into all of the vendors, and the annual or quarterly distribution of updated tapes would minimize this issue.

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APPENDIX A

BRS FILE DEVELOPMENT PROJECT ADVISORY GROUP

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Diane MacIntyre	Far West Laboratory
Harry Osgood	ACES Intermediate Service Center, Connecticut
Frank Thompson	BOCES, New York

LEARNERS' CHARACTERISTICS

EXPERIENCE	
has traveled widely	has not traveled much
stimulus-rich background	stimulus-poor background
has read a lot	has read very little
has mastered previous learnings	has not mastered previous learnings
has skills of learning	lacks skills of learning
high achievement	low achievement
extensive interests and activities	limited interests and activities

INTELLIGENCE	
rational	irrational
can integrate ideas	cannot integrate ideas
contemplative	shallow thinker
quick to learn	slow to learn
intrigued with complexity	intolerant of complexity
reflective with ideas	impulsive with ideas
has good memory	has poor memory

MOTIVATION	
energetic	lazy
persistent	easily discouraged
shows initiative	lacks initiative
enthusiastic	bored
tries hard	gives up
purposeful	aimless
inquisitive	indifferent
future-oriented	present-oriented
curious	uninterested
able to delay gratification	demands instant gratification

EMOTION-PERSONALITY	
patient	impatient
open minded	closed-minded
accepts blame	blames others
good natured	moody
has sense of humor	lacks sense of humor
confident	lacks assurance
mature	immature
optimistic	pessimistic
independent	dependent
deliberate	impulsive
internal locus of control	external locus of control
dependable	undependable
responsible	irresponsible

CREATIVITY	
innovative	traditionalist
flexible	rigid
original	copyist
risk taker	cautious
fluent with ideas	restricted with ideas
autonomous	conforming
able to elaborate	difficulty elaborating
able to form new patterns or relationships	difficulty forming new patterns or relationships
imaginative	unimaginative

SOCIAL	
communicative	uncommunicative
participator	loner
cooperative	uncooperative
forgiving	holds a grudge
friendly	unfriendly
empathic	callous
sympathetic	unsympathetic
tolerant	prejudiced
altruistic	selfish
respectful	disrespectful

APPENDIX B

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CURRICULUM

EXPERIENCE	
special terminology	common vocabulary
provides vicarious experience	provides direct experience
requires special training to use	no special training required
advanced/difficult reading level	simple/beginning reading level
advanced in nature	introductory in nature
representative of reality	original or actual thing
examples and illustrations are complex and difficult to understand	examples and illustrations are simple and understandable

INTELLIGENCE	
concept-oriented	fact-oriented
abstract	concrete
intentions implicit	intentions explicit
criteria implicit	criteria explicit
complex organization	simple organization
evokes analysis-type thought	evokes recognition
evokes synthesis-type thought	evokes isolated-type thought
evokes evaluative-type thought	evokes recall

MOTIVATION	
attractive	plain
stimulating	calming
evocative	routine
examples provocative	examples lacking or not provocative
marked contrast	contrast not evident
compelling	bland
unique	ordinary
complex	simple or uniform
immediate feedback	feedback not available
activity-oriented	passivity-oriented

CHARACTERISTICS

EMOTION-PERSONALITY	
ambiguous	set and unequivocal
change-oriented	stasis-oriented
ego involving or reflects positive sense of self esteem	non-ego involving or reflects negative sense of self esteem
reflects appropriate expression of emotion	reflects inappropriate expression of emotion
decisions controlled by the learner	decisions controlled by others or by chance
requires student to make decisions and abide by the consequences	does not require student to make decisions and abide by the consequences

CREATIVITY	
evokes imagination	evokes imitation
open-ended	closed
versatile	limited
alternative responses possible	restricted responses required
nondirective	directive
interrogative	declarative
unusual	predictable
novel	conventional
does not lend itself to being judged right or wrong	does lend itself to being judged right or wrong

SOCIAL	
respects individuality	stereotypical
reflects positive concern for people who are different	reflects negative concern for people who are different
reflects sensitivity to people	lacks sensitivity to people
reflects positive concern for people and things	reflects negative concern for people and things
nonprejudicial	prejudicial
fosters interpersonal skills	no interpersonal skills required

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LEARNERS' CHARACTERISTICS

VERBAL EXPRESSION (SPEECH)

fluent speech	labored speech
responds in complete sentences	one-word response
relevant verbal response	verbal responses not relevant
pronounces common words properly	mispronounces common words
uses correct plural	uses incorrect plural
seldom makes grammatical errors	frequently makes grammatical errors
seldom makes syntactical errors	frequently makes syntactical errors
responds immediately	delays in responding

AUDITORY PERCEPTION

can concentrate in a noisy situation	easily distracted by noises
perceives phonic sounds accurately	cannot perceive phonic sounds
recognizes spoken words which are partially presented	cannot recognize a spoken word when partially presented
understands words in songs	cannot understand words in songs
able to recall how things sound	cannot recall how things sound
able to restate words or sounds in sequence	cannot restate words or sounds in sequence
able to follow directions	cannot follow directions

VISUAL PERCEPTION

follows symbols from left to right easily	difficulty following symb left to right
can sequence and match both objects and symbols	cannot sequence or ma either objects or symbols
easily distinguishes an object from its background	cannot distinguish an ob from its background
comprehends a variety of visual stimuli	easily confused by visua stimulation
copes with color-coded materials	difficulty with color-coded materials
easily identify similar objects or symbols in varying contexts	difficulty identifying objects or symbols in varying context
recalls visual stimuli in sequence easily	difficulty with visual sequential memory
discriminates between horizontal, curve, and diagonal	difficulty discriminating horizontal, curve, and diagonal
coordinates hand and eye movements skillfully	cannot coordinate hand and eye movements
forms letters easily	difficulty forming letters
completes incomplete visual forms or patterns	unable to complete incomplete forms or patter

MOTOR PERCEPTION

manipulates small objects easily and skillfully	has difficulty manipulat small objects
coordination between hand and eye is smooth	has difficulty with hand eye coordination
maintains body balance without difficulty	has difficulty maintaini body balance
moves rhythmically without difficulty	has difficulty moving rhythmically
has no difficulty with laterality and directionality	has difficulty with laterality and directionality
has no difficulty with spatial relationships	has difficulty with spatial relationships

CURRICULUM

VERBAL EXPRESSION (SPEECH)	
(Appropriate)	(Does not Apply)
requires expanded verbal response	requires simple yes-no verbal response
requires sequencing of spoken terms	does not require sequencing of spoken terms
requires categorizing	does not require categorizing
requires differentiation of opposites	does not require differentiation of opposites
requires discrimination of parts and wholes	does not require discrimination of part and wholes
requires discrimination of singular and plural forms	does not require discrimination of singular and plural forms
emphasizes rhythm of language	does not emphasize rhythm of language

AUDITORY PERCEPTION	
(Appropriate)	(Does not Apply)
requires organizing, reproducing, or sequencing of sounds and words	does not require organizing, reproducing, or sequencing of sounds and words
requires identifying auditory similarities	does not require identifying auditory similarities
requires identifying auditory differences	does not require identifying auditory differences
auditory directions required	auditory directions not required
requires identifying specific sounds	does not require identifying specific sounds
requires learning rhymes, songs, and finger plays	does not require learning rhymes, songs, and finger plays

CHARACTERISTICS

VISUAL PERCEPTION	
(Appropriate)	(Does not Apply)
requires the student to identify visual similarities and differences	does not require the student to identify visual similarities and differences
requires the student to organize, reproduce, and remember a sequence of visual stimuli	does not require the student to organize, reproduce, and remember a sequence of visual stimuli
requires finding a specific object against a crowded visual environment or background	does not require finding a specific object against a visual environment or background
requires the student to differentiate right-left, front-back, near-far, top-bottom, and comparable characteristics of visual stimuli	does not require the student to differentiate right-left, front-back, near-far, top-bottom, and comparable characteristics of visual stimuli

MOTOR PERCEPTION	
(Appropriate)	(Does not Apply)
requires body balance	does not require body balance
requires locomotor activity	does not require locomotor activity
involves body parts	does not involve body parts
requires imitative movements	does not require imitative movements
requires fine motor coordination	does not require fine motor coordination
requires using body parts of one or both sides of the body	does not require using body parts of one or both sides of the body
requires hand and arm movements past the midline of the body while head and body are stationary	does not require hand and arm movements past the midline of the body while head and body are stationary

Appendix C

RECOMMENDED PILOT TEST GUIDELINES

General guidelines for the Practice File as it develops in the future will include those discussed below. In some cases the guidelines include fairly ambitious departures from the ERIC process. In such cases we assume that further data on marginal benefits will be needed before implementing certain features. This set of guidelines is meant to be a point of reference in determining what should be done during the pilot test, and in subsequent developmental phases of the Practice File. While this document will not become a formal part of the contract it will affect the current practice file contract as "formal technical guidance" to the contractor (as provided for in the contract specifications.) Departures from this guidance must be fully justified and approved by NIE. (NOTE: The actual plan for Phase II, the pilot test, will include some sub-set activities implied by the guidelines recommended below. It will attempt to answer specific questions about what NIE should support after the pilot test is over).

FILE FEATURE	RECOMMENDED GUIDELINE
Scope of Content	Non-commercial, U.S. Curriculum materials (anything of a written or audiovisual* nature developed to meet the objectives of an educational program.) Examples: textbooks, films, other visual aids, records, games, and simulations's, teacher manuals (including goals and objectives, learning experiences, activities, and instructional aids.) Scope includes managerial practices (related directly to instructional problems), testing instruments for classroom settings and supporting documentation, needs assessment techniques related to instruction, community involvement programs, inservices education programs, individualized education programs and alternative education programs. Validated and non-validated practices will be eligible for inclusion. (Some are already covered in ERIC to some extent.) Pilot should examine overlap issue and make recommendations for avoiding duplicate effort in both ED and EP entries. (ED-EP Practice) Note: Advisers recommend further investigation into the following: commercial materials, English landguage materials from other countries. Policy, technical and logistical problems associated with these require special attention before NIE decides to include them in the scope. *Audio-visual items already included in the NICEM system are excluded, as are other non-print items already adequately covered by NICEM. All content coverage eligible for NIMIS II is also excluded.

Acquisitions	No guideline. The contractor recommends that we consider adding a new ERIC Clearinghouse to handle special acquisitions problems. This clearinghouse might handle acquisitions arrangements not suited to subject area focus of other 16 Clearinghouses. But, it would not take over all acquisitions functions. Sacrificing experience, visibility and contacts already established in the current clearinghouses appears unrealistic from a technical and cost perspective. The advisers feel that various issues need to be examined on the proposal to fund a new clearinghouse. No decision need be made on this feature, prior to our proceeding with the Phase II pilot test. Hence we recommend that the issues be examined in more depth. NIE should be in a position to make an informed decision by the Spring of 1979.
Selection	Evaluation techniques that have been applied to the practice will be identified according to type (e.g., case study, standardized test or peer review). But it will not be necessary for a practice to have been evaluated prior to inclusion in the file. Actual learner outcomes can be included as a distinct search field but they need not be entirely uniform and their inclusion is optional. Selection will not be limited to 'validated' practices. Practices to be entered in the system must have source documentation which can be made readily available through the system (microfiche and/or hard copy) to users. 'Availability of source documentation' means that microfiche copies can be offered per the ERIC model. Note: Advisers recommend that items without source documentation also be considered for inclusion, at least during the pilot test. The question of marginal utility should be examined: Will users find references to items where no microfiche is readily available useful? Does the utility justify the expense? Types of items most likely to fall into this category are teacher-developed materials where little or no public funding has been provided, curriculum material with non-print parts, and commercially offered materials.

Selection criteria will be patterned after those employed in the ERIC program (e.g., contribution to the field, legibility, likely utility to a national audience).

Contractor is advised to also consider a limiting rule such as "must be in use in more than one site."

Processing

Twelve special items are recommended for inclusion as searchable fields (e.g. type of evaluation conducted; institution that recommended inclusion of the item in the file, if any; location of a demonstration site (if applicable); information about availability of materials. These would supplement current ERIC fields.

Advisers generally found the fields acceptable, with several exceptions. Items P4 (location of practice), P8 (where practice is in use) and P13 (contact person) seem to relay duplicative information. Operational distinctions among these should be clarified. Advisers recommend that the question of marginal utility be examined during the pilot test. Is it worth the cost to add these items to the present ERIC format? An item of specific concern is P13, the contact person. This obviously will require periodic update and purge of a labor intensive nature. An alternative to consider is simply including the name of the contract person's organization. Many advisers felt this may be cheaper and easier to do but looses the benefits of naming a contact. Application of the "privacy act" provisions needs to be more closely examined with respect to this latter item, as well.

Note: One adviser suggested that it may be interesting to eventually include an item as to the quality of the evaluation "process" used. For example, the JDRP may be rated AAAA, whereas peer review limited to brief examination may get an A rating. This idea may have some appeal after we become more familiar with the selection and processing problems of the file, and with user reactions.

Another adviser expressed strong interest in referencing related documentation in the abstract on search fields. For example, JDRP - Approved items have extensive evaluation information to back them up. Users should have references to these. They should have document access either through RIE, or through the Practice File.

	The external advisors suggest special attention be given to the notion of naming a contact person. This could be an invaluable aid to file users but an unbearable burden to the contact person. Further investigation is needed.
File Maintenance	Update and purge capability accomplished online through use of micro-computer. Purged materials not lost, rather stored on a "purge disc" in the central archieve for research purposes. Note: Before full-scale implementation of this feature several questions must be answered: what types of "purge" and "update" operations are needed? How often? At what cost? What is the marginal benefit of performing these functions, as opposed to not doing them at all? Advisers feel that several points raised by the contractor make this feature worth serious consideration (e.g., fluid nature of some kinds of education practices, likely value of a "contract person" being named--if there is one willing to accept questions from file users, questionable value of keeping records describing "old, outdated" practices in the main file).
Vocabulary Development and Maintenance (includes issues related to controlled vocabulary and identification)	Use ERIC Thesaurus. Add new terms through the Vocabulary Improvement Committee. This will require some modification of the committee membership, and a modification of the "new term" procedures to speed the process. Note: Questions to be answered include: should new EP (Education Practice) terms be merged with the main thesaurus, be a separate publication, or be a supplementary chapter to the main thesaurus? The contractor suggests that special attention be given to developing terms to describe student characteristics which a given curriculum item is designed for. The Thesaurus Improvement Committee is currently refining "leveling" terms (e.g., grade level). Other types of terms may relate to specific socio-economic backgrounds of students that the material is targeted toward (e.g., male/female, minority, rural/urban), learning deficiencies (e.g., visual perception, motor perception, verbal expression). An example of such a classification system is the Annehurst Curriculum Classification System. The Thesaurus Improvement Committee and/or the contractor's pilot test work may include an examination of ERIC terms already covering these classes. If utility justifies the effort, it may be reasonable to consider special

instructions to ensure that terms describing the setting for which an input item is designed be included. (NOTE: This avenue may be to complex to handle in a band-aid manner. We may want to have a special project designed outside of our current activities, if this is the case.)

The assumption behind this notion is that the nature of user needs in the EP file is different from that of the ED file. EP users will want items useful for specific learning situations. ED users are searching for theoretical information that could be applicable to a wider range of practical situations, including learning situations plus others.

Search and Retrieval

The added fields recommended under the "processing" feature (above) will be searchable. Actual structure of entire record will be examined during the pilot test to determine the most effective set of searchable fields, and abstract fromat. The Practice File shall be searchable with ERIC much the same as ED and EJ files are concurrently searched now.

Note: Needs for new thesaurus terms and identifiers will also require further research.

User Products

Possibilities range from an Annual Catalog, only, through monthly SDI, user-targeted announcements. Mini-lists such as "Practices Worth Knowing About" (carrying some recognized endorsement/evaluation) may also be offered, in addition to an information analysis program. The appropriate types of user products, their frequency, and our relative investment in each depends on questions such as: what will the annual volume of new acquisitions be? Can effective user profiles be drawn up to guide a national SDI program? Is there a market for such a program?

Advisers suggest that various types of special micro-fiche sets also be considered.

The regular monthly index offered by ERIC (RIE) may not be appropriate for this file since: the volume may not warrant monthly updates; comprehensive updates of all new file entries may have less impact on school people than more selective catalogs. These considerations require closer examination.

The possible need for retrospective file purge and update may undermine utility of an archival, printed index.

A general publicity and system orientation program should be planned. It should include training for on-line users, guidelines for developing spin-off products from the main file for local use (e.g., SDI's), descriptive brochures and other hand-outs that intermediaries can use to announce the new file to their own users, at a minimum. An 800 phone number for practice file customers to ask questions about accessing the file would also be helpful in start-up period. In this way "bugs" could be quickly identified, answers provided in the quickest way, frustrations of learning a new service reduced.

The project external advisers suggest that special opportunities exist with the EP file for meeting local information needs with locally generated products.*NIE should encourage intermediaries to take advantage of these opportunities by providing training and guides for how to plan and develop their own products in a cost efficient manner. A mini grant program to encourage such development would be ideal.

The online user feedback capability will be seriously considered. Advisers feel this offers interesting benefits in terms of collecting "sensing" information on user needs, user reactions to file entries, and information on how the file is being used. Questions that need to be answered are: what relevant experience should we know about, through systems using this feature (Michigan system, EPIE, others?); what are specific costs of design, implementation, operation? What special management arrangements would be needed to ensure smooth operations and appropriate use of feedback, once entered?

Ordering capability for commercial and non-commercial products is appealing feature. Further research is needed to answer policy, cost, and technical questions.

*Locally generated products may include pre-packaged searches, bibliographies, information analysis products, SDI services, for example.